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PEDIATRICS

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ORIGINAL ARTICLES

HYDRIATIC MEASURES IN THE MANAGEMENT OF FEBRILE DISORDERS OF INFANCY AND CHILDHOOD.*

By SIMON BARUCH, M.D.,
Visiting Physician to the Hood Wright Memorial Hospital,
New York.

IT is a happy augury for the better comprehension of the therapeutic uses of water, that its application in the febrile disorders of children should receive separate consideration from that given to antipyretics. I hold that water is not an antipyretic, because the reduction of temperature is not its only, and not even its chief therapeutic attribute. If I were called upon to classify water, I should rank it as an anti-febrile agent. By long custom we have gotten into the habit of labeling drugs according to their only, or chief action, as cathartics, diuretics, antipyretics, etc. Cold water is still too often ranked in books, lectures and discussions as an antipyretic. This is an unfortunate error, because it has obscured its real therapeutic value, and interfered with its universal acceptance. The natural deduction from this false classification was the equally false idea that inasmuch as a larger dose of a cathartic, for instance, produces a more decided cathartic effect, a colder and longer bath would increase the antipyretic effect sought. Excessive shock and collapse have often resulted from this erroneous conception, and the ill effects of cold baths, injudiciously administered, have led to their being abandoned and decried.

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* Discussion before the Pediatric Section of the New York Academy of Medicine on the Treatment of Febrile Diseases of Children.

Eight years ago I visited a great Berlin hospital, and enjoyed the privilege of making rounds with one of its justly celebrated physicians. When I asked his opinion of the Brand bath in typhoid fever, he said: "Weg mit der Antipyrese." Although he claimed to be a pupil of Traube, who was an earnest advocate of cold bathing in fever, he justly regarded antipyresis as a fallacy, but erred in saying, "Away with antipyresis, away therefore with the cold bath, for it is an antipyretic." Strange admixture this of wisdom and error.

Unhappily this false deduction from false premises still sways many medical minds. I regard it as a pleasing privilege to be called upon to aid in removing it.

What are the therapeutic indications in febrile disorders of infancy and childhood? First and foremost the fact should be recognized that all fevers, whether of children or adults, have a more or less definite course, which it should be the physician's aim to alleviate, if possible, or to conduct to a successful issue, "*tuto, cito et jucunde.*"

Although this view is now almost universally accepted, many medical men still continue to ply active medicinal and other agents to combat the fever. Experience will teach them however, sooner or later, that with the exception of true malarial fevers, *not the disease, but the sick child should be treated* in the febrile disorders of infancy and childhood.

In a recent address,* I have endeavored to show how, by logical deduction from a more clear understanding of the fever processes, an evolution has taken place from the spoliative treatment, which sought to regulate the disease—a treatment which damaged the patient more than the disease did—to a more circumspect regard of the vis medicatrix naturæ. At a time when the rank and file of the medical profession were still worshipping the false gods of spoliation, the poet and sensible doctor, Oliver Wendell Holmes, hurled his shafts of sarcasm against it; the philosophic Jacob Bigelow wrote his treatise on "Nature and Disease"; and the great American bedside observer, Austin Flint, taught expectant therapy in fevers. Those of you, fellows of the Academy, who were, like myself, taught to bleed, blister, purge, vomit, and salivate the "materies morbi" out of the system, and who have watched the gradual evolution of the expectant method, must appreciate at its full value the beneficent return to a therapy which aims to assist Nature in her efforts to restore the lost integrity of the system, or to thwart the lethal tendencies which sometimes develop in the course of disease, by measures which at least do not enhance existing dangers. Although the purely expectant method was a vast improvement upon spoliative methods, its weak points developed in the treatment of *symptoms*, the relief of which patient and friends demanded. The result was that veratrum and aconite were plied to diminish the frequency and fullness of the pulse cold baths, quinine, and later the coal tar antipyretics, to reduce temperature chloral and later trional to allay restlessness and secure sleep, diaphoretics to remove aridity of the skin, morphia to relieve pain, and stimulants to arouse depressed vitality. Instead of regulating the disease, the doctor tried to placate it by making the patient and friends comfortable, and thus was constructed an antipyretic treatment. Far be it from me to underestimate the occasional value of any of these remedial agents. They are useful enough when applied to tide over threatening conditions, but they are positively baneful if applied in the routine manner still too much in vogue.

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* The Evolution of Modern Therapy.—*Therapeutic Gazette*, June and July 15th, 1899.

I should be glad to convince you, fellows of the Academy, that the judicious application of hydriatic measures may supplant most, if not all, of these remedies. Lest I be charged with undue enthusiasm in making this statement, I propose to briefly review the action of water in febrile disorders. May we depend upon it to diminish the pulse-rate, reduce the temperature, induce sleep, relieve pain, and arouse failing vitality? Let us take as an example, typhoid fever, which presents all the phases of fevers in its types and course. You are all familiar with the clinical picture of such a case, say in its second week. If it be a severe case, we have all the manifestations of a febrile disorder—the dry skin, the parched tongue, headache, jactitation, agrypnia, high temperature, rapid pulse, etc. Place a tub upon two chairs near the bed, fill it (if possible, without the patient's full notice) with water at 90°, immerse the child's entire trunk for ten minutes, practising gentle friction with the flat hand, or with a soft wash cloth constantly; bathe the head and face with water at 60° twice. Remove the child into a linen sheet, wrapped snugly around it, and cover with a thin blanket. Repeat the bath every three hours, reducing the temperature three to five degrees each time, until 75° or 70° are reached, then continue at this temperature as long as the rectum registers over 103°. What would be the result of this treatment? As a rule the child will fall into a gentle slumber, the respiration will become less hurried, the face calm, skin moist, temperature and pulse rate diminished—in brief, all febrile manifestations will be ameliorated, without the discomforts and dangers incident to the usual routine drug treatment.

The rationale of the beneficent result of these hydriatic measures is simple. The application of water having a temperature below that of the body produces, as you know, a primary contraction of the cutaneous vessels, which is followed by a tonic dilatation. It is a fairly well ascertained fact that in many infectious diseases, the peripheral vessels are in an atonic condition. In the milder types and stages this condition of the vessels is not sufficient to impair cardiac action. In the more severe cases, however, the existence of this abnormal condition in the cutaneous vessels contributes to a more or less gradual exhaustion of the heart, the chief lethal danger, which the physician is called upon to prevent and combat in febrile disorders. Physiology teaches that the vaso-motor system consists of a governing nerve apparatus, and blood vessels obeying the latter. When these are in proper relation, the blood vessels offer a normal resistance to the blood current propelled into them by the heart—a resistance which is in exact proportion to the demands of the system. The circulation of blood is thus promoted by the alternate contraction and relaxation of the vascular walls. When, however, the vaso-motor centers are under the influence of any disturbing agent, as in fainting, in shock, in toxemia, in disease, there is at once an interruption of the normal response of the blood vessels to the systemic demands. When the toxic elements of an infectious fever circulate in the brain, and disturb the vaso-motor centres, there occurs a loss of tension in the arteries, which no longer are capable of responding with normal resistance to the blood-current, and of propelling the blood-current onward with their wonted energy and completeness. The pulse becomes soft, compressible and even dicrotic. In the compensatory regulation of the systemic functions, the heart is called upon to compensate for this inadequate arterial circulation by increasing its beats. This extra labor, if long continued, or intensified by a more intense toxemia, eventually exhausts the heart entirely, and the physician is called upon to meet that most dreaded complication, heart failure, which too often resists his best directed efforts. The superiority of hydriatic measures over drugs in the management of febrile disorders lies in the fact that by their use we may prevent and combat this ever present danger. The application of water, more or less lower than the body temperature, to the skin, if it be judiciously adapted in temperature, duration and mechanical impact to each individual case, restores the lost tone of the cutaneous vessels, which, as you know, are capable of holding two-thirds of the entire blood supply of the body. Resulting from their restoration to normal action, we have increased resistance to the blood current, the cardiac systole is enhanced, as is evidenced by increase of pulse tension, diminution of pulse rate, and removal of dicrotism.

Following the primary contraction of the vessels, we find this tonic dilatation lasting from one-half to two hours, according to the intensity of the toxemia, the responsive capacity of the patient, and the hydriatic procedure employed. Repetition of such a procedure prolongs its good effects.

" The resistance offered to the heart by the properly acting vaso-motor nervous system, through its influence upon the vessels, is identical with the friction offered to the driving wheels of a locomotive. The locomotive is intended to meet and stand any resistance, and if the resistance be removed by slippery rails, the wheels fly round ineffectually, racking the machinery, and destroying its usefulness."—(Hare.)

The cold application to the large vascular area in the skin, restores the lost resistance of the peripheral vessels, and thus improves the action of the heart. As this is accomplished through the medium of the nervous system, we at once have an improvement of the two basic elements in the maintenance of life. If there be any medicinal agent equal to this simple one in fulfilling these two chief indications, stimulation of the nervous and vascular systems, I have failed to discover them in an active search of one-third of a century at the bedside.

The flexibility of water as a remedial agent presents additional advantage in fever. The rationale of the action being once grasped, and the fact being recognized that not the reduction of temperature, but the enhancement through the nerve centres of the functionating capacity of all the organs of the body, is the object of cold water application, its field of action becomes unlimited. In the early stages of all febrile diseases of children the full baths referred to are of value, when the body temperature remains persistently high, and the accompanying discomforts of fever are pronounced; and yet simple ablutions often suffice to secure favorable effects. The wet pack, the sheet bath, the wet compress may be resorted to, each having, as I shall show, its individual advantage and applicability.

An important point, and one which is too often neglected, is the necessity of precise directions to the nurse, not alone with regard to the technic of the procedure, but also with regard to its temperature and duration. I remember seeing a child suffering from a malignant type of scarlatina, in consultation with an intelligent practitioner; the latter was in despair because "he could not reduce the temperature of 106°, even by a cold bath." Upon inquiring into the method pursued, his reply was that to avoid too sudden shock the bath was begun at 106°, and gradually reduced to 60°, the child remaining in it necessarily nearly half an hour, and no friction being used, on account of fear of irritating the skin. Is it surprising that the skin became cyanosed, the pulse feeble, and collapse ensued, and that another bath was objected to? It is a serious, but too frequent error to fear the shock from water much below the temperature of the body.. But if it be borne in mind, that the aim of cold application is a stimulus to the nervous system, which is to be evoked by reaction, and that the latter can only be obtained as a sequel to some shock, the fallacy of such apprehension becomes apparent. The chief point to be observed is the exercise of judgment in adapting the shock to each individual case. This, like everything else in medicine, must be learned by experience. We do not attempt to arouse a fainting woman by sprinkling warm water upon her, and gradually reducing its temperature. Experience has shown that a sudden forcible dash of cold water is the most useful measure for that purpose, because the shock and reaction produced would be absent after a warm water application. On the other hand, sprinkling the face and chest of a typhoid patient would arouse him for so brief a time that it would not suffice to bring about the needed stimulus. Hence the difference in the technic of these two instances, which has been evolved by experience, and is sanctioned by a readily understood rationale. The common practice of passing a damp sponge over the hot skin of a fever patient is of questionable value. It may be somewhat refreshing in mild non-infectious fevers, by reason of the cooling effect due to evaporation of the moisture. But the true stimulating effect upon the central nervous system and the cutaneous vessels, which is needed in the more pronounced febrile disorders of children, can only be elicited by adding gentle mechanical irritation.

This may be best accomplished by using a gauze, or other soft wash-cloth, and allowing more or less of the cold water to flow over the skin. Only by using both methods—sponging and ablution—in the early days of an infectious fever, may the inadequacy of the former be appreciated. In all febrile disorders of children, I am in the habit of ordering hourly or two hourly ablutions, beginning with water at 90°, and reducing one degree each time until 60° are reached, as an initiatory measure. Their good effect may be readily sustained by a wet compress, composed of three folds of old linen cloth, or toweling without fringes, more or less wrung out of water at 70°—60°, covered with thin flannel to keep the bed clothing dry, and snugly applied every hour to the anterior part of the body (abdominal compress). Our neat and efficient handmaiden, the trained nurse, will try to protect the clothing by covering the wet compress with oiled silk. I do not approve of this, because it converts the cold compress into a warm poultice, requiring more frequent renewals, whilst the flannel covering permits evaporation through its meshes, and maintains the cooling effect. When the body temperature exceeds 103°, it is a good plan to allow more water to remain in the compress, just wringing it out sufficiently to prevent its running over and moistening the clothing. In this manner the larger quantity of cold water used abstracts more heat, and enhances the shock, and consequent reflex stimulus. The flexibility of this agent thus becomes apparent.

In the pneumonic fevers of children, I am in the habit of using the gradually reduced full bath, placing the child's entire trunk into water at 96°, using continuous friction over the body, while another person adds ice water so as not to touch the body, until the bath water is reduced to 85° or 80°—duration five to eight minutes. Such a bath should be followed by drying and friction. Note the difference in technic between the full bath described as useful in typhoid fever, and this full bath. Both would be termed cold baths, when given to patients with temperatures ranging from 102° to 105°. In the first, the water temperature is reduced several degrees *before* each bath until 75° are reached. Drying is not recommended. The bath lasts from ten to fifteen minutes, because such a bath stimulates the nervous system which is more or less indifferent to the disturbance involved in it. The full bath for pneumonia lasts five to eight minutes, is gradually reduced *during* the bath from 95° down to 80° each time. Drying is advised, because the pneumonia patient has been shown by experience to be less resisting to cold water, and by reason of the pain, cough, and embarrassed respiration, he cannot bear so disturbing a measure as the colder bath, which is so useful in typhoid fever. Here, again, you have an intimation of the flexibility of hydriatic measures, how by a simple change of the technic, guided by experience, they may be adapted to varying types and conditions of fever—a flexibility which is totally absent in medicinal agents.

In pneumonia I have found the chest compress at 60°, repeated every hour or two, an effective auxiliary. It deepens the inspiration, temporarily increases cough, and thus aids in the expulsion of stagnant secretions; it arouses the heart, causing cyanosis to disappear for a time at least, and afterwards, when the compress gets warm, we have the poultice effect of calming irritation, inducing sleep, and relieving pain, without the relaxation incident to the old-fashioned warm poultice.

The assent of parents is sometimes difficult to obtain, owing to the popular antipathy to cold water. A little stratagem will overcome the latter. I usually begin the compress with 100°, which being several degrees below the body temperature, is not relaxing; then gradually reduce each one two to five degrees, until sixty are reached. The child's improvement, calm slumber, deeper inspiration, and bettered facial expression soon cause all opposition to disappear. In those desperate conditions of broncho-pnemonia, whether idiopathic or complications of the exanthemata, in which positive stimulation is needed, when the skin is cyanotic, the respiration shallow, pulse rapid and almost imperceptible, extremities cold, though internal temperature be high, I am in the habit of ordering a stimulant, and personally administering an affusion with a basinful of water at 60° poured with some force over the shoulders of the child, while the latter is held semi-recumbent in a tub of water at 105°, reaching to the navel. This is a measure of great value. Followed by drying and friction. and repeated every hour or two, increasing the number of basins of water gradually up to four, I have observed the overloaded bronchi relieved, the inspiration deepened and calmed, expectoration increased, cyanosis removed, the pulse greatly im proved. Indeed, the entire aspect of the case often changes, after the judicious application of such an affusion. The latter is also indicated in the early stages of those severe scarlatinas and measles in which similar conditions exist without pulmonary complications. I do not, as a rule, find cold full baths well borne in scarlatina, and for this reason I mostly resort to ablutions rapidly administered. There are, however, cases encountered, in which full baths help to tide the patient over threatening conditions of hyperpyrexia and heart failure.

The number of hydriatic procedures at our command, the latitude afforded by varying temperatures and duration and mechanical impact, afford a large field for adapting them to the management of the febrile disorders of children. Their very flexibility, however, presents difficulty in the selection of the right hydriatic measure, and in adapting it to the case in point. If, however, the practitioner will bear in mind that the effect upon the nervous system and heart is to be pre-eminent in his therapeutic endeavors with cold water, and that reaction mild and gentle, should always be assured, and if he will study the rationale of the action of cold water, he will not fail to select the correct measure in each case. More judgment and experience are necessary, it is true, in the hydrotherapy of disease than in drug medication, but a careful study and observation of the effects of water as a remedial agent will amply compensate for this increased demand upon our time and knowledge.

I have so often been charged with too earnest an advocacy of hydrotherapy in disease, that I am loath to conclude this brief review of the hydriatic management of febrile disorders in children, without fortifying my statement by the published opinions of a few eminent clinicians. Our own Jacobi[1] writes: "Under the influence of a cold bath, both temperature and heart beats diminish (in typhoid fever), arterial pressure increases, and the intellect becomes clear; it has a peculiarly favorable influence on the infant and child."

A. Baginsky[2] refers to hydriatic measures in pneumonia, as follows: "The chief aim is to moderate fever and maintain strength. Both indications are well fulfilled by cold compresses around the thorax. When properly employed, under appropriate conditions, especially with regard to cardiac fever, they may be life-saving, and they are to be decidedly preferred to antipyretics."

Prof. Hutinel, of the Paris Hospital for children, writes: "The cold bath not only diminishes temperature; it enhances the various secretions, increases arterial pressure, and sustains the heart. Patients who have been bathed return to life. In my experience, the cold bath has never produced evil effects upon the lungs."

Of the use of hydriatic measures in malignant fevers, Prof. Fürbringer[2] writes that he has "seen apparently hopeless cases recover under them, and that this treatment affords decidedly better results than the medicinal."

Of the same measures in scarlatina, the Parisian pediatrist, Guinon[2], says: "There are three great indications; to moderate fever, quiet nervous disturbance, and prevent and combat secondary infection. Antipyretics should be avoided. Hydrotherapy certainly provides more efficient means, and is easier to control." And Prof. Juergensen claims that "the toxic manifestations and elevated temperature (in scarlatina), can be successfully combated only by water."

It remains only to emphasize that in view of the consensus of opinion of eminent pediatrists and other clinicians, it has become highly important to give to hydrotherapy more than the step-fatherly consideration usually assigned to it in our schools and clinics.

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[1] Therapeutics of Infancy and Childhood, second edition, p. 204.

[2] Principles and Practice of Hydrotherapy. By Simon Baruch, M.D., p. 292.

I trust the time is not far distant when at least as much attention will be given to teaching precision in the technic and application of water, as is now devoted to teaching the origin, preparations, and precise dosing of the hundreds of drugs which the student is forced to master, and most of which he discards as useless ballast as he grows more and more familiar with disease at the bedside.

No. 51 West Seventieth Street.

Treatment of Chlorosis.—The following method of treating chlorosis was advocated by Sir ANDREW CLARK. With careful attention to the diet and a tepid sponge bath, followed by brisk toweling night and morning, he prescribed the following mixture:—

℞	Ferri sulphatis	gr. xxiv
	Magnes. sulphatis	ʒ vj
	Acid. sulph. aromat	ʒ j
	Tinct. zingib	ʒ ij
	Infus. gentian. comp. vel quassiæ q. s. ad	℥ viij

M Sig. One-sixth part twice daily, about 11 and 6 o'clock.

Occasionally this acid mixture produces sickness, dries the skin, and is otherwise ill-borne. In such cases he prescribed the following alkaline mixture:—

℞	Ferri sulphatis	gr. xxiv
	Sodii bicarb	ʒ ij
	Sodii sulphatis	ʒ vj
	Tinct. zingib	ʒ ij
	Spt. chloroformi	ʒ j
	Infus. quassiæ q. s. ad	℥ viij

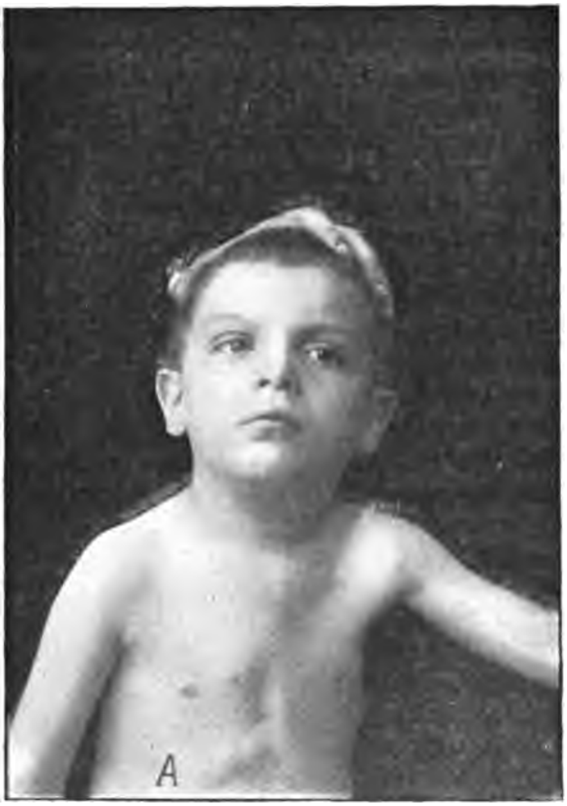
M Sig. One-sixth part twice daily, at 11 and 6 o'clock.

Sometimes neither mixture agrees with the patient, in which case he prescribed sulphate cf iron pill with meals, and a saline aperient on first waking in the morning. By this plan Clark held that nine out of ten cases recovered in from one to three months, and by careful attention to the bowels, taking twice a week a pill composed of aloes, myrrh and iron, the recovery probably would be permanent.—(*Practioner*, lxiii, 359.)

A CASE OF INTERSTITIAL EMPHYSEMA.*

By Max Girsdansky, M.D.,
New York.

PATIENT, B., male, 6 years old, came first under my observation in July, 1898. His mother is a stout, neurasthenic woman, who suffers from a mild form of chronic bronchitis; otherwise family history was negative.



When I was called to see the boy first he was suffering from a typical attack of asthma. Percussion normal, slightly hyperresonant; abundant dry râles all over the chest, piping and wheezing in character and louder on expiration than on inspiration; temperature normal. The patient could lie down, but would prefer the sitting posture. He got well in three to four days upon simple treatment.

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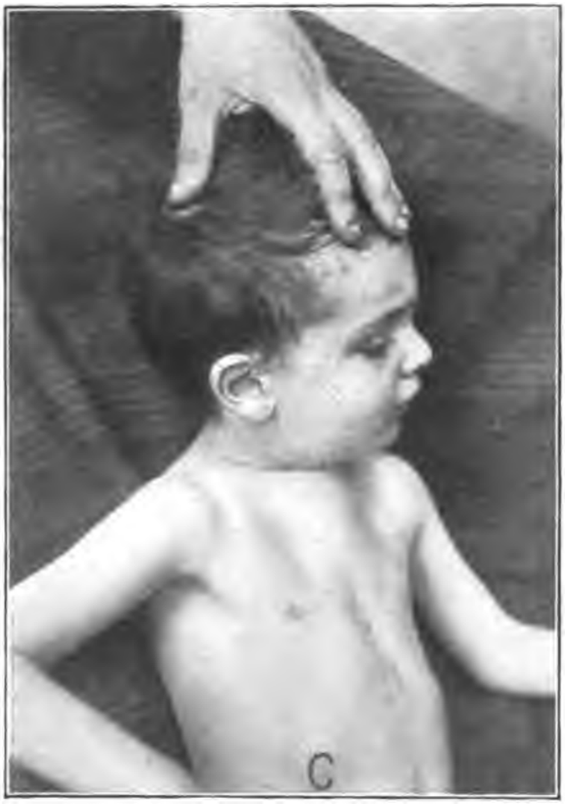
* Read before the Eastern Medical Society of the City of New York, Oct. 13, 1899.

Since then I have treated him for several such attacks, each attack running a similar course. He, however, gradually developed a condition of chronic bronchitis and pulmonary emphysema, in spite of a somewhat irregular course of cod liver oil, iron and arsenic.

On August 15, 1899, he was seized with an unusually severe attack. Still, as no complications could be discovered, I expected to see him recover as he usually did.

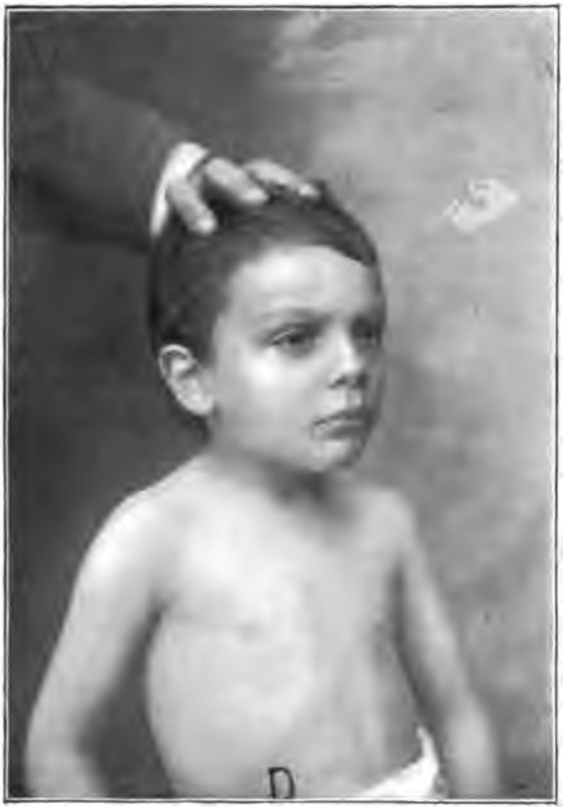
On Friday, August 18th, the patient's father came to call me in a hurry. "My boy is choking!"—that was all he knew.

Upon arrival I found the patient sitting in his bed, knees drawn up, elbows upon his knees, and chin upon his palms. He looked terrified; he would answer no questions, and seemed to pay attention to nothing in the world. His eyes were sunken, his lips slightly cyanosed. His pulse was rapid, slightly irregular; breathing forty per minute, shallow. Upon closer inspection I discovered that his neck and upper chest assumed an exceedingly abnormal shape. His neck had become very much thickened. The natural grooves at either extremity and either side of the sterno-cleido-mastoid muscle were filled out. The supra-sternal notch, the infra- and supra-clavicular depressions were similarly filled out and obliterated. The neck looked like a round, roughly-cut wooden block, without curves, without depressions. The upper part of the sternum,



the manubrium and a part of the gladiolus were covered by a large, bulging tumor. The tumor was soft, painless, not in the least tender to touch, extremely elastic, yielding to the slightest pressure, but completely returning to its former shape immediately upon removal of such pressure.

With the stethoscope one could hear bronchial respiration all over the space occupied by this unnatural bulging, *e. g.*, at either angle of the jaw, at either infra- and supra-clavicular space and over the sternum as far down as the insertion of the third costal cartilage.



Palpating gently this tumor one could feel a soft crepitation; a fremitus-like sensation would be imparted to the fingers, as if one were handling a locked-up, sticky fluid saturated with minute air-bubbles. If one auscultated it during palpation one would hear râles, some coarser, and some even finer than the subcrepitant pneumonic râles.

This was doubtless a case of interstitial emphysema, following an attack of asthma, complicated by chronic bronchitis and pulmonary emphysema.

Upon auscultation I found the condition of the chest similar to what it used to be ordinarily during these attacks. There were, however, numerous large and medium-sized moist râles, in addition to the sibilant ones, all over the chest. Temperature 100° F. The agony-like condition in which I found the patient and which, I thought, was due to shock, lasted only a few hours, when he began to feel more comfortable. During the night he suffered a relapse of acute dyspnea which lasted again three or four hours, then passed away, never to return.

On the next day Dr. R. Abrahams saw the case with me and concurred in the diagnosis of interstitial emphysema.

The photos A, B and C were taken on the 21st of August, the fourth day after the accident, showing the loss of all natural grooves in neck and upper thorax. The lead pencil on photo B depressing the tumor is intended to show to what extent the skin is raised above the natural level. The photo D showing the parts restored to their natural shape, was taken ten days ago, on October 3d.

The boy was treated with expectorants and tonics, but I am impressed that the condition of the interstitial emphysema was not influenced by the course of treatment and went its own natural course, although the treatment undoubtedly benefited the bronchial and general condition of the patient. He began to improve on the sixth day. The tumor began to decrease in size, and in about two weeks his neck assumed its natural hape.

COMPLICATIONS OF DIPHTHERIA.*

By I. A. Abt, M.D.,
Chicago.

THE almost universal use of antitoxin has to some extent changed the clinical course, as well as the complications and sequelæ of diphtheria. A study of diphtheria statistics convinces us that the percentage of complications is no greater than in the pre-antitoxin times. More cases survive now than formerly, and this fact might be sought to explain the occurrence of a greater total number of complications. That complications occur in spite of the administration of antitoxin is to be explained on the ground that antitoxin (*a*) was given too late; (*b*) the dose was insufficient; (*c*) in rare cases, that the toxins were so virulent and so rapidly acting that irreparable tissue changes occurred before the earliest possible moment that antitoxin could be used; (*d*) it has been suggested that some cases should be considered as unresponsive to the use of antitoxin.

Septic diphtheria is not, strictly speaking, a complication of diphtheria, but in the vast majority, if not in all of the cases is due to a profound intoxication with diphtheria poison; for this reason Heubner thinks that it would be more appropri-to designate the disease "diphtheria gravissima," or "diphtheria maligna."

Bacteriological examinations in these cases show that nearly pure cultures of diphtheria bacilli may be found; the pyogenic cocci may be absent. In a certain proportion of cases streptococci or staphylococci are present. There are those, however, who maintain that the severe symptoms are due to secondary infections, principally with the streptococcus. These cases present the appalling picture of the disease which is so familiar to most of us. The pharynx is covered with a thick, dirty-appearing membrane which spreads very rapidly, involving in turn the uvula, the posterior pharyngeal wall, the hard and soft palate and gums, sometimes ascending into the posterior pharynx, or descending along the respiratory tract. The membrane soon becomes gangrenous, and the soft parts may become necrotic and even perforated, and if the process lasts long enough, scar tissue may form at the site of the necrotic membrane. The nose is usually involved; air cannot enter; the mucous membrane is swollen; there is an irritating acrid discharge which causes an excoriation of the lips. The odor from the mouth is extremely fetid and offensive.

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* Read before the Chicago Medical Society, October, 1899.

Associated with these local symptoms are severe symptoms of general toxemia and extreme prostration. The face is frequently puffy, and has a death-like pallor; the pulse is small, frequent and irregular; incessant vomiting may occur, while diarrhea occurs rarely. Hemorrhages from the nose into the membrane or under the skin are not uncommon. Fever is either absent or of very slight degree; the urine is scanty; albumin is present as a rule; anuria may occur. Most of these cases terminate fatally. It would be of great interest to know what influence antitoxin would have in preventing these severe septic cases if given in the early stage of the disease. Baginsky says that in nearly every case where antitoxin is administered early, sepsis rarely, if ever, develops. The truth of this is verified to a certain extent by the experience of most practitioners who frequently see cases on the first or second day of the disease, when the diphtheria involves the pharnyx and nose extensively, and after a dose of antitoxin has been administered, the process begins to subside rapidly, so that in a very few days the membrane has entirely disappeared from the throat. Baginsky, the author last mentioned, who is as sanguine of antitoxin therapy as the most ardent advocate, says that it is not to be denied that there are isolated refractory cases which may be compared to cases of syphilis that are not influenced by treatment; or, to express the same point in another way, initial infection has produced such virulent toxins that it is impossible to neutralize them with the ordinary dosage of antitoxin, even if the antitoxin be given early.

The history of the following case is in point: A male child, aged four years, was seen at the invitation of my colleague, Dr. Earnest Lackner. The mother said the child had been ailing for a few days with symptoms of a cold; it was taken acutely sick at night with fever, headache and sore throat. Dr. Lackner, who saw the child on the following morning, which was probably the second day of the disease, imediately recognized the condition as a severe diphtheria, and gave 2,000 units of antitoxin, repeating the same dose the following day. The antitoxin made only a slight impression on the malignant character of the disease; the process spread to the nose and ears; all the glands of the neck became swollen, and the overlying tissue edematous. The gland tissue, as well as the muscles and fascia, became necrotic and extensive destruction took place. The urine was heavily laden with albumin; the heart's action was irregular, and after a severe struggle of about two weeks' duration, the child succumbed to the disease. We have here an illustration of a case of grave septic diphtheria which was not influenced favorably by the antitoxin, though given early. Similar to these cases which run an acute course, Heubner describes a chronic variety. These he designates as cases of "diphtheritic marasmus;" they are children who have had antitoxin, but suffer for weeks or months from the effects of the diphtheria poison; they are pallid and emaciated; the pulse is small, frequent and irregular; paralyses are not infrequent. These children may revive after many days of suffering, or eventually succumb.

Cardiac Affections.—Heart complications may occur in the mild as well as in the severe forms of the disease. In general we distinguish (1) heart paralysis occurring early; (2) heart paralysis occurring late. The first group of cases occur in children who suffer from the grave or septic variety of the disease; these are nearly always fatal. The other cases are those in which death takes place, after the patient has apparently recovered, *i. e.*, on the third, fourth, or as late as the sixth or seventh week.

The best known and the most feared of the cardiac complications are those which occur after the local disease has disappeared. While there can be no doubt that there are well authenticated cases where death occurred from the third to sixth week, without any warning, or without previous symptoms, nevertheless most observers maintain that before the heart affection endangers the life of the patient, a number of characteristic symptoms develop which will put a careful observer on his guard. If a pulse becomes unusually rapid or excessively slow during convalescence, the condition of the heart should be ascertained as nearly as possible.

More important than a change in the number of pulse beats is a disturbance of the normal rhythm. The pulse in children may be irregular in health, for example, during sleep, or during crying, and under a variety of conditions. The irregularity of the pulse in diphtheria is characteristic. The pulse in these cases intermits for one or two beats, or it may become double. Auscultation over the heart frequently reveals an accentuation of the second pulmonic tone; frequently a murmur is heard which is almost always systolic in time. The pathological condition in the heart causing this murmur has not been satisfactorily ascertained. The heart beats become slower and slower; the little patient passes into a comatose state which terminates fatally. Sometimes the cases are more protracted, attacks of syncope occur, and the case usually terminates suddenly, fatally, when the patient attempts to sit up, to move in bed or to cough. A small proportion of these cases recover after a prolonged convalescence.

An entirely satisfactory pathological explanation of this class of cases is not at hand. The fact that they occur at about the same time that the changes in the peripheral nerves take place, and that frequently no lesions are found in the heart which would explain the condition, and, furthermore, that in a number of cases degenerative lesions in the vagus and sympathetic have been found, makes it probable that the morbid condition of the heart is due in a certain proportion of cases to the action of the toxins on the nerves supplying the heart. Particular importance has been attached to the changes which occur in the vagus, it having been maintained that the cardiac symptoms were in part due to a paralysis of the vasomotors. It must not be overlooked that the heart itself shows almost always evidence of myocardial inflammation.

Since the mortality from diphtheria has been diminished by the general use of antitoxin, it may also be concluded that the heart is favorably influenced by the antitoxin, because it is conceded that the common cause of death from diphtheria is due to some heart lesion. Certain it is that antitoxin can have no influence on a heart already damaged by diphtheria poisons, but it is believed that the antitoxin partially or completely neutralizes the poison if given sufficiently early.

Nephritis is a most frequent complication, and usually begins at the height of the disease. Albuminuria is present in nearly all of the severe cases that have come under observation. The cases are characterized by the occurrence of large quantities of albumin and casts. In the milder cases there may be only a cloudy swelling of the epithelium; hemorrhagic urine, such as occurs in scarlet fever, is rare. This nephritis usually runs a favorable course. Anasarca and uremia, though they occur less often in this disease than in scarlatina, are sometimes noticed. The albuminuria is not caused by the administration of antitoxin, as was formerly believed. Albuminuria is an expression of the diphtheria toxemia, though it is observed that since the use of antitoxin the severe cases of nephritis are becoming less frequent.

Diphtheritic Paralysis. — These manifest themselves clinically:

1. Early diphtheritic paralysis.
2. Post-diphtheritic paralysis.
3. The hemiplegic forms.

To the first variety belong those cases which occur early while the membrane still covers the pharynx. This variety of paralysis occurs in the grave or septic cases. Paralysis of the palate is the most prominent symptom. The voice of these children becomes nasal; swallowing is interfered with; fluids regurgitate through the nose. The prostration is extreme; the heart's action is irregular, marked by the occurrence of tachycardia and arhythmia; disturbances of sensibility may occur or paralyses may take place in this part of the body. The patellar reflex disappears early. Most of these cases terminate fatally. In those exceptional cases of recovery the paralysis proceeds, involving the nerves in various parts of the body.

The post-diphtheritic paralysis may occur two weeks after the occurrence of the first symptoms in the throat, or as late as six weeks thereafter. The first symptom is paralysis of the soft palate. The patellar reflex in most cases is soon lost; it may not reappear for months, though in some cases it is greatly increased, and ankle clonus may be present. It is not uncommon to find striking nervous symptoms and great weakness in the muscles of the trunk or extremities; there may be paralysis of the cranial nerves. In a certain proportion of cases the symptoms of weakness and paralysis rapidly improve; the palate gradually regains its normal mobility, and we recognize the mild form of the post-diphtheritic paralysis.

In the severe cases of paralysis the disease is progressive and persists, and, in addition to the nervous lesions, we have evidence of severe prostration. These cases run a course without fever and usually without pain. The gait is uncertain and ataxic; the muscles atrophy; electrical stimulation shows the reaction of degeneration; not only the legs, but the arms are involved. These children may have paralysis of the oculomotor, or abducens, or facial nerves. Disturbances of accommodation are not uncommon. Paralysis of the larynx usually causes death by aspiration pneumonia. Affections of the phrenic and the vagus cause respiratory paralysis.

The great affinity which the diphtheritic poisons shows for nervous structures will explain in part the widely distributed nerve lesions. We may have at one time an affection of the peripheral nerves; at another an affection of the anterior columns of the cord, or a neuritis, or perineuritis of the cranial nerves.

Katz (*Arch. f. Kinderheilkunde*, Bd. XXIII, Nos. 1 to 3, 1897) found the medulla oblongata frequently the point of selection for the diphtheria poison. In one child, who died of heart paralysis, he discovered degenerative changes in the medulla. Cases of disseminated spinal sclerosis have been reported (Stadthagen, *Arch. f. Kinderheilkunde*, 1883) and also a case of progressive paralysis is reported (Faville, *Annales Médico-Phys.*, 1869).

A number of cases of hemiplegia have been reported. They are ushered in by convulsions or by coma. In most of the cases recovery occurs in the course of some weeks, though in some of the cases contractures or permanent disability of the extremities remain.

These paralyses, it is believed, are caused by cerebral hemorrhage, or by embolic softening. Slawyk (*Deutsche Med. Wochen.*, Feb. 10, 1898), in reporting a case due to embolism of the Sylvian artery, has collected forty cases in which this complication occurred.

Paralyses are seen particularly in the cases where antitoxin is administered late, or neglected cases where the physician is not called in until the third, fourth, or fifth day of the disease. As a rule, it may be dogmatically stated that if antitoxin is administered on the first day of the disease the paralyses will not occur. Far as it may be from the function of antitoxin to repair damaged nerve fiber or nerve cell, nevertheless the severe paralyses, where great groups of muscles are involved, are becoming less and less in proportion as the antitoxin is used early.

Otorrhea.—Cipriani (*The Therapist*) calls attention to the danger the patient suffering from otorrhea is exposed to, having a purulent cavity in the system separated from the brain by a thin wall of bone often only 1 to 2 mm. thick. He refers to statistics of 200 cases of cerebral diseases, in which death ensued after injury to the meatus, suppuration of the cavity of the tympanum forming the most frequent cause of abscesses of the cerebrum or cerebellum. The following indications should receive attention: (1) The pus should be removed in the best possible manner. (2) The condition of the mucous secretion should be improved. (3) The diseased local condition, which may influence or prolong the disease, should be removed. Formalin in a 2 per cent. solution used daily is the best injection, for besides its antiseptic properties, it possesses the capability of making the parts unsuitable for the development of any pathologic germs of disease, always assists healing and protects against excessive granulations in recent cases.—(*The Chicago Clinic.*)

DOUBLE PARALYTIC VARUS FROM PERIPHERAL NEURITIS.

By Henry Ling Taylor, M.D.
New York.

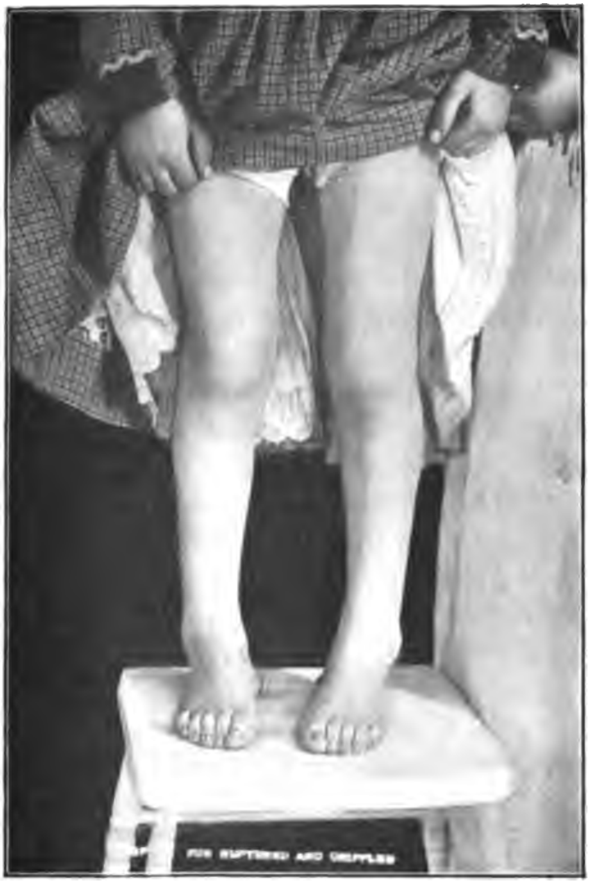
BESIDES the congenital forms of pes varus and equino-varus, similar deformities may result from the various paralytic affections of childhood. The commonest cause of acquired club foot is poliomyelitis; the cerebral hemiplegias and paraplegias frequently cause a pes equinus or equino-varus, in which the equinus element usually predominates.

Among the rarer causes of acquired varus or equino-varus in childhood is peripheral neuritis, and a case of double deformity from this affection may be seen in the accompanying cut, which shows well the inversion of the foot, and adduction of the forefoot.

This case was a girl of thirteen, seen recently at the Hospital for Ruptured and Crippled. The writer is indebted to Dr. E. W. Auzal, neurologist to the hospital, for details of the history and notes of the examination.

Without antecedent illness, or other known cause, the child had begun to have severe pains in the legs, especially in the feet, ankles and anterior aspects of thighs, soon after her arrival from Italy, two years before the examination. Her mother states that there was no fever, and that the pain did not interfere with walking. After a time the pain subsided, and the feet became weak and deformed as at present.

Examination showed atrophy of the perineal group of muscles, and tenderness to pressure over the anterior nerve-trunks, faradic reaction was but slightly diminished; patellar and Achilles reflexes were feeble. The patient walked with difficulty, the feet rolling over to the inner side. As is usual in these cases, the fore-foot dropped down, the arch was exaggerated (pes cavus), while the heels were displaced inward and downward, and adducted. A high degree of this heel deformity seems rather characteristic of this condition. The appearances suggest those of beginning, progressive, neural muscular atrophy (Charcot-Marie-Tooth), but the neuritis is distinguishable by its sudden onset with pain, absence of fibrillar tremor and degenerative reaction, by its non-progressive character, and by the tenderness of the nerve trunks.



The prognosis is much better than in the former affection, but the deformity and weakness may persist. Ankle braces with side-bars correcting the malposition, affording lateral support, and allowing limited motion at the ankle joint were applied in this case with benefit.

60 West Fifty-fifth Street.

EDITORIAL COMMENTS

Boric Acid and Formic Aldehyde as Preservatives of Milk.

During the late war the allegation that our troops were receiving chemically preserved meat aroused the whole country and a prolonged investigation was demanded. The subject is but too fresh in the minds of all to require more than passing comment. There is most certainly a deep-seated prejudice in the minds of the people against the use of "chemicals" in the preservation of food-stuffs. Is this prejudice well founded? When so small a quantity of the boric acid mixture as forty grains to the gallon or 1 in 50,000 of formic aldehyde will preserve milk for forty-eight hours, are we justified in not advocating their employment? The question must be considered from several aspects. We must endeavor to ascertain whether these substances diminish the action of the digestive ferments as well as whether the resulting products are influenced in such a way as to affect nutrition. Different investigators have arrived at somewhat different conclusions as to the extent of the action of these substances on proteolysis. However, that proteolysis is retarded when these substances have been present in the food stuff for sometime seems established. All seem to agree that amylolysis is markedly retarded. In an article on Boric Acid and Formalin as Milk Preservatives (*Lancet*, 1899, No. 3976) Dr. H. E. Annett quotes Professor Allen, professor of physiology in Mason College, Birmingham, who says: "Boric acid and its compounds are quite foreign to the animal body and their presence must necessitate departure from the normal chemistry of life. The departure may be expected to consist partly in the formation of inert compounds of boric acid with calcium and magnesium (perhaps also iron), and the consequent removal of these indispensable metals from the economy. Whatever antiseptic may be used it should be remembered that in order to obtain its due effect there must be enough present to exert a decided influence on protoplasmic activity. This effect can hardly be expected to be beneficial to the tissues of the alimentary canal. Even the disinfection of the contents of the canal is a doubtful blessing in most cases, because the beneficial organisms are thereby destroyed. However harmless an occasional dose of boric acid (or one of its compounds) may be, it is evident that the case may be different when nearly every article of diet contains it." In the same paper Dr. Annett tabulates the results obtained on feeding young kittens of the same age and weight on milk containing boric acid or formic aldehyde. Of five kittens fed on milk containing eighty grains of boric acid to the gallon, all died during the fourth week. Of five fed on milk containing forty grains to the gallon three died during the fourth week. The control animals receiving untreated milk lived and flourished. Loss of appetite was the first symptom, then followed diarrhea, inactivity, depression, emaciation and death. Experiments of like nature with formic aldehyde (1-50,000, 1-25,000, 1-12,500) showed that it greatly retarded nutrition, and occasionally caused death. The symptoms were, loss of appetite, diarrhea with gaseous stools, changes in the hair, and in some instances emaciation and death. In a few animals but little change was observed. From these preliminary experiments the author is inclined to conclude that these preservatives may be the cause of some of the cases of infantile diarrhea.

T.

Abnormal Self-consciousness in Children

When the child's appetite is good and his temperature normal, most physicians are apt to think him safe in his mother's care and no longer dependent upon medical advice. Yet, if we counsel correct habits of diet, exercise and sleep, we ought not to be considered as transgressing very far the legitimate bounds of medical practice if we essay occasionally a warning word about so bad a mental habit as self-consciousness. Such advice when given to a reasonable mother may be in the best sense prophylactic. Few parents can be gotten to believe, for example, that "forwardness," disobedience and rude conduct in a young child are sometimes a grave sign of mental deficiency. Gowers has noted them as one of the earliest indications of abnormal cerebral function. Instead of the youngster's being prompted to rudeness and impertinence and laughed at for his supposed precocity, such performances should be viewed with anxiety and should be gently but prompted suppressed. That small children should be "seen and not heard" is a maxim based on an enlightened psychology. The abnormal self-consciousness that prompts such outbreaks can easily develop into an incurable egomania; the growing brain tissue is, as Horace so well said long ago, *cereus in vitium flecti.* Even where it is not congenital, a morbid feeling of self can be awakened and nourished with alarming ease and speed. No child should be encouraged to repeat poetry before his mother's guests, or praised for his "pretty curls," or even have his first trousers made too much of. The less he thinks of himself the better. He may be judiciously commended for good conduct or for diligence in study, but never flattered for his cleverness or good looks, or anything which he has not come by through self-forgetting endeavor. Both boys and girls should be taught to *endure;* to neglect trifling aches and pains, and seek for a remedy rather than cry over the trouble. Self-command and self-control are the noblest things a man can strive for, and he will never gain them unless he began learning in infancy to fix his thought and will upon objects outside himself. If such principles of education were more closely followed, hysteria and the "artistic temperament" might gradually disappear; and the hosts of insane people now walking at large, because their disorders of consciousness are not directly menacing to society, might be much diminished. Improper marriages are, of course, at the root of the evil. Bad training is, however, almost as frequent a cause, and is one which in the present state of society is much more readily remediable. To Macbeth's famous question, "Canst thou not minister to a mind diseased?" the modern physician should find a better and braver answer than that of the doctor in the play, "Therein the patient must minister unto himself." B.

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, November 9, 1899.

HENRY KOPLIK, M.D., Chairman.

Crossed Paralysis; Tumor of Pons.—Dr. HENRY KOPLIK presented a boy of five years, sent to him through the courtesy of Dr. S. Yankauer. According to the history the boy had always stumbled when walking, but this had become worse lately. His present trouble began about one year ago. The sight having been affected, glasses had been fitted, but nothing else done. Two months ago he had begun to suffer from headaches, and his ataxic gait had become much worse. Up to the time he had been first seen there had been but one attack of vomiting. Examination showed complete right facial paralysis; a deviation of the tongue to that side; abducens paralysis; complete left hemiplegia with increase of reflexes on that side. When he walked, he reeled, and on standing with the eyes closed, the Romberg symptom had been very marked. Now, about two weeks later, the paresis was on the right side also, and was associated with increased reflexes on that side. There was no atrophy of muscle. He had made a diagnosis of tumor of the pons, involving the nuclei of the facial and abducens on the right side. There was no history of tuberculosis or of syphilis in the family. The boy was not very bright, and he had shown a tendency to be cruel to his playmates.

Dr. W. B. NOYES said that in the absence of a papillitis in such a case, the strongest proof of the existence of a brain tumor was the rapid progress. Two other conditions might be thought of, viz.: internal hydrocephalus and tubercular meningitis. But there had been no history of anything but measles during the past year, and the progress of the disease had been steady. He did not think it rare in children for vomiting and headache to be absent, or not marked. He now had under his observation a case exemplifying this. He would suggest the possibility of the tumor, in the case just presented, being, not in the pons, but pressing upon it. The commonest tumor of the brain in childhood was solitary tubercle, and this was often associated with ataxia as the only symptom. If the tumor were in the pons itself, the case, it seemed to him, should have terminated before this. Optic atrophy did not occur, as a rule, except as a terminal symptom. and then following a papillitis.

Dr. Koplik said that it had been suggested that the tumor in this case might press against the pineal gland, and so account for the large size of the child for its age.

A Dipper for Removing and Measuring Cream in the Household Modification of Milk.—Dr. Henry D. Chapin said that the fat in milk from a mixed herd seldom fell below three, or rose above five per cent. The Department of Agriculture recommends that the milk be strained, aërated and cooled immediately after milking to 45°F.—if for shipment, or to 65° if not to be shipped. When cooled in this way it should keep sweet for sixty hours. Dr. Chapin said that from correspondence with milk dealers in this vicinity, he had learned that most of the milk contained, on average, four per cent. of fat, and was poorest in the spring. A series of assays of milk from good dealers showed the average to be a trifle over four per cent. The milk was usually delivered within twenty-four to thirty-six hours after milking. For the past thirty years, a method of separating the butter-fat had been in vogue, known as "the deep-setting" process of creaming. This consisted in letting the milk stand in deep vessels for twenty-four hours at a temperature of 40° F. At the end of this period almost all of the cream would be found to have separated from the milk. When the milk was bottled at the farm and transported to the city, this process of creaming had usually taken place, and this served to distinguish the milk bottled in the country from that bottled in the city. In the feeding of infants, it was assumed that gravity cream contained 16 per cent. butter fat, but this was not true. As a matter of fact. gravity cream was very variable in its percentage of butter fat, depending upon which layer of fat the sample was taken from. The ordinary milk bottle would contain about six ounces of cream, containing on an average 17.5 per cent. fat. When the deep-setting proceess of creaming had taken place, the subsequent handling of the bottle would affect the cream but very little. For infant feeding, 12 per cent. and 8 per cent. cream were found to be the most convenient.

The dipper exhibited by Dr. Chapin was simply a small cylindrical box made of tin, and having a vertical wire handle attached to the side. The dipper holds just one ounce, and is really nothing more than a miniature milk dipper of the ordinary type. He stated that if nine ounces were removed from the top of the bottle and were all mixed together, it would be found that this mixture would yield 12 per cent. cream with remarkable uniformity. This has been proved by numerous aasays. If 8 per cent. butter fat were required, he would remove sixteen ounces, and mix all the portions together. A number of assays of such milk had shown the averege to be 7.8 per cent. of butter fat. The dipper would hold one ounce of granulated sugar, and one dipper and a half represented one ounce of milk sugar.

Dr. KOPLIK was inclined to agree with the speaker that mathematical accuracy of percentage feeding, insisted upon by some was altogether unnecessary. Dr. Meigs had advocated this dipping off of the cream, and had shown that its average strength was 12 per cent. The only trouble with the very excellent formula of Dr. Meigs was that there was only one modification; nevertheless Dr. Meigs had truly been the originator of the modification of milk.

Dr. HENRY HEIMAN asked if Dr. Chapin had made any experiments to determine the comparative accuracy of the dipping method, and of the ordinary method of decantation.

Dr. CHAPIN replied that the reason he had resorted to this dipping process was that the tipping of the bottle, even when the cream was decanted with great care, mixed the different layers more or less.

Dr. THOMAS SOUTHWORTH said that the point made by Dr. Chapin regarding the difference in the milk when bottled in the country and in the city was novel to him. He had been accustomed to direct the mother to let the bottle of milk stand for some hours, in order that the cream might rise, thus necessitating the preparation of the baby's food rather late in the day. If, as Dr. Chapin has said, milk bottled in the country, had already undergone the deep-setting process of creaming, by the time the milk was delivered to the consumer, such a delay was wholly unneccessary.

Dr. A. M. Thomas said that this dipper seemed very practical, but personally he had had very little difficulty with the siphoning process, after having instructed the mother or nurse how to do it. With two pieces of glass tubing and a connecting piece of rubber tubing it was easy to siphon off the cream, and at the same time, keep the apparatus clean.

Dr. J. F. Winters remarked that at an agricultural station in Wisconsin, as a result of a large number of experiments, it had been found that the percentage of cream varied with the temperature at which the milk had been set. At a temperature of 35° there would be 20 per cent. cream; at a temperature of 50°, 50 per cent. cream, from the same milk on the same day.

Dr. Chapin replied that such sources of error were offset by the fact that he took such a large quantity of skimmed milk.

The Rearing of Premature Infants by Means of Incubators.—Dr. H. D. Chapin opened the discussion of this subject. He said he had records of seventy-three premature children that had been treated in an incubator. Of this large number only two had lived. He then presented the elaborate incubator, devised by Mr. Putnam of Boston, and recommended by Dr. Rotch. Forty prematurely born babies had been in this incubator. All of them had died, though some had lived as long as three weeks. It had seemed to him that one great defect of this complicated incubator was that it did not derive its supply of air from outside of the room. More recently he had saved two infants by putting them in bed, wrapping them in cotton, and keeping up the body warmth by the use of hot bottles. Special attention was directed to the fact that these babies had been breast-fed, and this he believed to be the great essential to success in the rearing of premature infants. Regarding the children that had been treated in the Boston incubator, he would say that one of these infants had weighed only one pound and thirteen ounces, and that the average weight had been about four pounds. These very tiny infants were not even able to swallow, and must be fed by the stomach pump. They had ordinarily been kept at a temperature between 95° and 98° F. Most of them had come from the tenement houses after great exposure, and had indeed been almost moribund at the time of reaching the hospital.

Dr. ALLEN M. THOMAS said that about fifteen years ago, he had begun the use of the incubator at the Emigrant Hospital. The first occupant of the incubator had weighed two and three-quarters pounds, and had been born on the twenty-eighth or thirtieth week. It had been kept in the incubator three months, and at the end of a year had weighed twenty-one pounds, and had been subsequently reared successfully. His last experience with a premature baby had been in the Lyon incubator. At birth this child had weighed three pounds and eleven ounces. Within twenty-four hours, the temperature of the infant had varied fifteen degrees. Its temperature had risen to 108° F. at first, and the child had gone into collapse. It had then been removed from the incubator, and resuscitated, but in a few hours its temperuture had fallen to 93° F. This enormous fluctuation of body temperature was all the more remarkable, because at this time the child had not been given any food, only a little sterile water. The child had gone on well after this, and was now seven months old. It was not uncommon to find great fluctuations of temperature, but not so great as the one just mentioned. He had frequently known the temperature to rise to 105° F. The season of the year had considerable influence over the result, the late spring and summer being especially unfavorable. He had had only six incubator cases in his private practice, but had followed twenty cases occurring in the Nursery and Child's Hospital. He had also received certain data regarding forty cases treated by Dr. Adriance. Of this last series, sixteen had recovered. Of the fatal cases, death had been attributed in eleven to prematurity, the others dying later—perhaps in about a year—of marasmus or some other trouble. A premature infant, weighing three pounds, or less, was exceedingly hard to save. These infants should not be handled for weighing or feeding. The infant should be placed in a flannel bag, slit down so that the nurse can reach the baby. No incubator would work well at all temperatures. The Lyon incubator was a good one, but was too expensive for general use. Most incubators would require. occasionally at least, a stream of oxygen.

Dr. EDWARD A. AYERS said that his own experience with premature children was represented by forty-one, out of four thousand confinements. The average weight of these children had been four pounds and five ounces. The average period of gestation had been thirty weeks and two days. Seventeen had lived, giving a mortality of 77.2 per cent. Eleven had been treated in incubators, and nine of these had died. All had been fed with breast milk. In his opinion, the air chamber of an incubator should be about six feet square; the air should come from out-doors, and the temperature should be uniform when entering the living chamber. The air should enter from several places away from the child, and should be slightly moist. The water tank should be small. The temperature should not be allowed to go above 95° F. At the present time he would prefer to place a premature baby in a room by itself, warming and ventilating this room, and making it the incubator. The nurse would have to stand this temperature just as the stokers did on warships.

Dr. J. E. WINTERS said that his first experience with a premature baby had been sixteen years ago. This baby had been born at the sixth month. That child was living and well, although no incubator had been used. Another child that had been refused at the Lyon incubator place had been brought to him at the medical college, and had been successfully reared on laboratory milk. These infants had been very carefully wrapped and protected from changes in temperature. None of these babies could have suckled at the breast. They had been fed for a long time with a medicine dropper, and all upon milk. The prescription for the milk for the last of these premature infants had been: fat 2, sugar 10, and proteids .25; half an ounce at a feeding. As a result of experience with the Walker-Gordon Laboratory milk, he now believed that no child should be allowed to go even three days after birth without feeding. If this practice of feeding babies immediately after birth were adopted, the children would do better; they would lose less weight at first, and have less temperature changes. At the end of the first week he would use 2.5 per cent fat. in the second week 3 per cent. fat and .5 per cent. proteids. All of the children had been fed on raw milk, and extreme care had been taken not to give too much, for, if gastric disturbance were excited, it would almost certainly be fatal. He believed that the sterilization or Pasteurization of milk had more to do with the death of these premature infants than had the incubators. If the milk were simply diluted until a low percentage of fats and proteids were obtained, he believed the results would be much better than had been stated this evening.

Dr. VOORHEES said that for the past two years incubators had been used at the Sloane Maternity Hospital, chiefly the Lyon incubator. They had preferred, in most cases, to keep the temperature in the incubator at 88° F. One hundred and six babies had been placed in the incubator. Of this number, 29 had died within three days, some of them in a few hours. Of the remaining 77, 13 had died while in the hospital, most of them from atelectasis. He knew that 13 had died out of the hospital, and that at least 25 were alive today, one of them being a little over two years old. This gives a mortality in the hospital of 39 per cent., and the mortality of all the cases followed, 50 per cent. They had been fed hourly at first, beginning with half a drachm to one drachm of a sugar solution, and keeping this up for a few days. After this they had been given breast milk. When this could not be obtained, the premature infants had been fed on modified milk composed of fats 1, sugar 6, and proteids .33 per cent. As these children exhibited a strong tendency to atelectasis, it was well occasionally to tap them and make them cry vigorously.

Dr. VANDERPOEL ADRIANCE said that atelectasis was one of the most frequent causes of death. These attacks of atelectasis were the most frequent during the first two or three days. They seldom occurred after the tenth day. Up to the fourth month of intra-uterine life it should be remembered the lungs were composed of bronchi, surrounded by embryonal tissue, and that no alveoli were to be seen. It was only after the fourth month that buds appeared and subsequently developed into alveoli. In the prematurely born, these alveoli had not had an opportunity to dilate. Again, the ribs were cartilaginous, and when the child gasped, the ribs sank in, and air was not drawn into the lungs. Another cause was that the respiratory centre was prematurely called upon to perform its function. The popular notion was that the incubator was the sole means of saving the premature infant, but he believed that the feeding was probably the most important. The milk of prematurity contained an excessive amount of proteids, even more than during the colostrum period. This was partly accounted for by the fact, that the lacteal secretion was partly the product of filtration from the blood. The necessity for a low percentage of proteids in the milk was not generally appreciated. When the mother's milk contained so much proteids, the milk could be pumped out of the breast and diluted with water, but a still better plan was to get for a wet-nurse a woman whose child was only about one month old.

Dr. E. LIBMAN said that at one of the Parisian clinics a number of incubator children had died of erysipelas. This had ceased on sterilization of the incubator before using it any further. The reporter of this series of cases of infection had expressed the opinion that a large number of incubator babies died from infection.

Dr. CHAPIN, in closing the discussion, called attention to the necessity of sharply distingnishing between statistics drawn from private practice, from the better equipped hospitals, and from the wretched infants taken from the tenements.

Suppositories in Children.—Dr. TEISSIER recommends, in the *Annales de Médecine et Chir. Infantiles*, September, 1899, the more frequent administration of bitter-tasting and otherwise disagreeable medicines by the rectum. Quinine, antipyrin, creosote, iodid of potassium, etc., may thus be advantageously given. It is well to carry out an evacuation of the lower bowel by means of a simple suppository before the medicated suppository is introduced.—*Med. Record.*

Chlorosis.—

℞	Acetate of copper	0.01 cgm.
	Crystalized Phosphate	0.05 "
	Licorice powder,	
	Glycerine, āā	q. s.

For one pill. Three times daily.

—LIEGEOIS (*Med. Record*).

ABSTRACTS

HOME MODIFICATION OF COW'S MILK.

H. S. Chapin (*New York Med. Jour.*, lxx, 1899, 658), in a valuable and practical article points out that for over thirty years there has been in use in the dairy industry what is known as the "deep-setting" process of creaming. This process consists in putting milk into tall narrow vessels, and cooling to about 40° F. After twelve to twenty-four hours, practically all the fat in the milk will be found in a creamy layer, the skimmed milk often containing not more than a fifth of one per cent. Milk bottled in the country, and kept cool during the twenty-four to thirty-six hours before delivery, is subjected to the conditions necessary for successful "deep-setting" creaming, and usually contains a layer of cream in the neck of a quart bottle, between three and four inches deep, measuring from the top, or about six fluid ounces. The line separating the cream from skimmed milk is distinct. The usual quart bottle is about nine inches high, by three inches and seven-eighths in diameter, and holds a scant quart, often only thirty-one fluid ounces. The cream in the neck of the bottle is not uniform in composition. Six samples were drawn by a pipette from the creamy layer of a quart of five-per cent. milk, commencing at the upper surface of the cream, which tested twenty-eight per cent., twenty-four and a half per cent., twenty-one and a half per cent., sixteen and a half per cent., fifteen per cent., and eleven and a half per cent. fat. Slightly over six fluid ounces of cream were taken from this bottle, the average test being seventeen and a half per cent. fat. The remaining skimmed milk tested one and two-fifths per cent. fat. The "deep-setting" process of creaming applies to bottled milk, and handling the bottles disturbs the cream very little.

Unless the creamy layer is distinct when such milk is delivered, it is probable that bottling has not been done in the country, but in town. Not only is the proper creaming thus interfered with, but the chances of contamination are increased. By thus mixing cream and skimmed milk, as it were *in situ*, in certain proportions, there is a certain relation between the fats and proteids that may be utilized in feeding the infant. In the home modification of milk, by means of this bottled milk, the cream is readily and accurately separated from the under milk, by means of a dipper measuring exactly one fluid ounce. Quart milk bottles have all substantially the same kind of neck, and a dipper has been made to easily fit into any of these bottles, after an inspection of a large number. The very top layer of cream is taken off with a teaspoon, and the dipper thus filled and the first ounce removed, otherwise the milk would spill over when the dipper is let down. The successive ounces of cream are then easily removed without jarring, siphoning, or other manipulation. While it is not easy to test the proteids in milk, we are taught on good authority that they nearly equal the fat in milks up to four and a half per cent. fat. Avoiding small fractions, cream with twelve per cent. fat would have three times as much fat as proteids (twelve per cent. fat, and four per cent. proteids); ten per cent. cream would have two and a half times as much fat as proteids (ten per cent. fat and four per cent. proteids); eight per cent. cream would have twice as much fat as proteids (eight per cent. fat and four per cent. proteids); six per cent. cream would have one time and a half as much fat as proteids (six per cent. fat, and four per cent. proteids). Almost any desired percentage of fat and proteids can be procured by diluting these creams, using the cream that contains the desired ratio between fat and proteids. Having at hand a bottle of milk which has been separated into two layers, one very rich in fat, and the other very poor in fat, the problem of getting a cream of any desired percentage of fat consists in mixing the very rich milk with enough poor milk to reduce its percentage of fat to the point desired. In practice creams containing twelve per cent. and eight per cent. fat are most useful, If it were possible to completely separate the fat from a quart of four per cent. fat milk, nearly eleven fluid ounces of twelve per cent. fat cream could be had, or sixteen fluid ounces of eight per cent. fat cream. In the "deep-setting" process of creaming, about ten per cent. of the total fat is left in the skimmed milk, so we would naturally expect to get only nine-tenths of the theoretical quantity of fat in the creamy layer. In practice where it is desired to have fat three times the proteids, make a twelve per cent. fat cream by taking the first nine dippers of cream and milk from a quart bottle on which the cream has risen, and mix. Result, nine fluid ounces cream—about twelve per cent. fat, four per cent. proteids, five per cent. sugar. What is not needed of the nine fluid ounces can be put back into the bottle. For any quantity of food containing fat three times the proteids, use this formula with twelve per cent. cream.

Dilution of twelve per cent. cream = twelve per cent. divided by the desired percentage of fat.

Fluid ounces twelve per cent. cream = desired fluid ounces food divided by dilution.

Sugar = desired fluid ounces food divided by twenty.

Diluent = desired fluid ounces food, minus fluid ounces twelve per cent. cream.

Example.—Desired twenty-four fluid ounces food containing fat, three per cent.; proteids, one per cent.; sugar six per cent.

Twelve per cent. ÷ three per cent. = four dilution.
Twenty-four ÷ four = six fluid ounces twelve per cent. cream.
Twenty-four ÷ twenty = one ounce and a fifth sugar.*
Twenty-four — six = eighteen fluid ounces diluent.

When it is desired to have fat two times the proteids, take the first sixteen dipperfuls of cream and milk out of a quart bottle and mix. Result, sixteen fluid ounces cream—about eight per cent. fat, four per cent, proteids, five per cent. sugar. What is not needed of the sixteen ounces can be put back in the bottle. For any quantity of food containing fat two times the proteids, use this formula with eight per cent. cream.

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* As food made by diluting cream four times will contain about one per cent. sugar, and by diluting twice about two per cent. sugar, it will be necessary to add five per cent. more, or one twentieth of the ounces of food.

Dilution of eight per cent. cream = eight per cent. divided by desired percentage of fat.

Fluid ounces eight per cent. cream = desired fluid ounces food divided by dilution.

Sugar = desired fluid ounces food divided by twenty.

Diluent = desired fluid ounces food minus fluid ounces eight per cent. cream.

Example.—Desired forty fluid ounces food containing fat, four per cent.; proteids, two per cent.; sugar, seven per cent.

Eight per cent. ÷ four per cent. = two dilution.
Forty ÷ two = twenty fluid ounces eight per cent. cream.
Forty ÷ twenty = two ounces sugar.
Forty — twenty = twenty ounces diluent.

A heaping dipperful of granulated sugar weighs an ounce, and a dipperful and a half of milk sugar measures practically the same weight.

The best method of acting on the casein of cow's milk in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of the cereals. It is also believed that dextrinizing the gruel before thus using it will often prove a distinct gain by enhancing its attenuating powers and increasing the ease of assimilation.

The older method of acting upon the starch of cereals by prolonged heating may be superseded by dextrinizing the gruel with diastase, which is rapid and simple. Most of the commercial malt extracts are sufficiently active in diastase to produce the desired effect.

PRESERVATIVES IN FRESH MILK.

James M. Whitfield, M.D., Richmond, Va., (*Medical Register*, September, 1899) says: One of the methods adopted for the preservation of milk unchanged is the addition to it of antiseptics. A few words concerning this method may be interesting in this day, when the wholesale, indiscriminate sophistication of foodstuffs calls for a careful investigation of almost every article of diet. The chemicals most frequently used in milk as preservatives are sodium carbonate (sal soda or washing soda), sodium bicarbonate (baking soda), borax, boric acid, salicylic acid, and formaldehyde.

Of these the last is the most efficient; possibly it is also the least objectionable because (1) only a small amount of the agent is necessary. It is said that 35 grains of formalin to the gallon of milk will keep it sweet for eleven days. Formalin is an alcoholic solution containing about 40 per cent. formaldehyde. (2) Formaldehyde is a gas, and volatilizes more or less rapidly from the milk. One observer states that he could find no trace of formalin after one week in a sample of milk that originally contained 1 part in 100,000. On the other hand, the physiologic action of formaldehyde is not entirely understood. According to several authorities the casein of milk containing formaldehyde is not as readily dissolved by acids as that from pure milk. The constant ingestion of drugs is to be condemned, whether the compounds be inert or active. Borax, boric acid and salicylic acids are all active agents, and produce, after prolonged administration, disturbances of digestion, loss of appetite, skin eruptions, and many other disorders. Salicylic acid is an irritant poison.

The carbonates of sodium are very energetic agents. By the housekeeper they are used for scrubbing floors and paintwork, scouring pots and kettles, making soap and yeast powders. By the physician they are used as antacids.

Prolonged use of any of these agents above mentioned will derange the digestive apparatus. Below is a table taken from the *Glasgow City Anal. Soc. Reports*, 1895, showing the amounts of the preservatives required per gallon and their relative efficiency:

PRESERVATIVE.	GRAINS PER GAL.	AFTER 6 DAYS.	AFTER 7 DAYS.	AFTER 8 DAYS.	AFTER 11 DAYS.
Formalin...............	35	Sweet,	Sweet.	Sweet.	Sweet.
Boric Acid.............	35	Turned.	Sour.	....	....
Borax and Boric Acid...	17.5 17.5	Sweet.	Sweet.	Sweet.	Sour.
Salicylic Acid..........	35	Sweet.	Turned.	Sour.	....

The examination of milk for any or all of these preservatives is not so difficult but that it may be successfully undertaken by any physician who is willing to devote a little time and a few cents to the practice of the subject. For the benefit of those who are inclined to try the experiments, the following directions are given: The outfit required for the work is—an alcohol or gas lamp, three or four test tubes, a watch glass, a white saucer, a shallow tin pan holding about two ounces, a four-ounce bottle, a few strips of turmeric paper, hydrochloric acid, strong commercial sulphuric acid, alcohol, ethyl or methyl; neutral solution of ferric chloride, solution of mercuric nitrate, solution of rosolic acid, benzin, sulphuric acid.

Formaldehyde.—For the detection of this agent proceed as follows: Pour into a test tube about 1 cc. of strong commercial sulphuric acid—the strongest to be had—and pour upon it a sample of milk, to which has been added its own volume of water. The acid and milk must not be mixed; the milk is to be floated on the acid by means of a pipette or by inclining the test tube and carefully pouring the milk down the side. If formaldehyde be present a violet color appears at the junction of the two liquids. This test will fail if the acid be not strong, if chemically pure acid be used, or if too large a percentage of formaldehyde be present. In the last case dilute the milk with water and try the experiment again.

If only C. P. acid is at hand, add to it a few drops of a neutral solution of ferric chloride—enough to give the acid a decidedly brown color.

Borax and Boric Acid.—Put 30 cc. in a shallow tin pan and heat gently till all the liquid portion of the milk is evaporated. Do not boil the milk, as all the boric acid may be carried off by the steam. The heat is now increased, and all the fat and most of the carbon is burnt off. Transfer the grayish ash to a watch crystal or saucer and add enough hydrochloric acid to make the whole acid; moisten a strip of turmeric paper with the acid ash and carefully dry the paper. If borax or boric acid be present the color of the paper is changed to a reddish. This color is peculiar and characteristic of boric acid. Pour on the mixture in the watch glass a few drops of alcohol—either grain (ethyl) alcohol or wood spirit—and set fire to the vapors. In the presence of boric acid or borax the flame will be green. This color is best seen at the moment of ignition and when the flame is screened from other lights. If the ash contain fat or much carbon the flame will be yellow and the green will be hard to detect.

Sodium Carbonate and Bicarbonate.—30 cc. of milk is evaporated and the residue incinerated as in the examination for borax. The ash from pure milk contains but very little if any carbonate, and the addition of an acid to the ash causes but little effervescence. When sodium carbonate is added to the milk it remains in the ash after incineration and yields upon the addition of an acid much gas, accompanied by effervescence more or less energetic, according to the amount of carbonate added.

Milk is also tested for sodium carbonates by the addition of a few drops of a 1 per cent. solution of rosolic acid. Add to the milk an equal volume of alcohol, then the solution of rosolic acid; pure milk shows a yellowish-brown color, but if either of the carbonates of sodium be present a red color is produced.

Salicylic Acid.—To 50 cc. of milk add about 1 cc. of a solution of mercuric nitrate. (The mercuric nitrate solution is made by dissolving mercury in twice its weight of nitric acid and diluting the solution with six volumes of water.) Shake the milk a few minutes and filter. To the filtrate add about one-half its volume of a mixture of equal parts of benzin and sulphuric ether. Put the mixture in a bottle or large test tube and shake for a few minutes. Allow the mixture to stand till it separates, then decant the ethereal solution, which is on top and contains the salicylic acid, into a white saucer. Evaporate the liquid and test the residue for salicylic acid by adding a drop of a neutral solution of ferric chloride. If salicylic acid be present a violet color is produced.

TREATMENT OF SCABIES.

Dr. SAMUEL SHERWELL (*Jour. Cutaneous and Genito-Urinary Diseases*, xvii, 1899, p. 495), directs all the members of a family "to take a bath the same evening; for the adults and the elder children a little sand soap (sapolio) may be lightly used over the tougher portions, the ones usually most affected of body, of course not on the infant. The body and limbs may then be rubbed lightly with a little sulphur lotum; a half teaspoonful is an excess for each individual. No excess of friction is required at all. The bed linen and underclothing of all kinds should be changed, and between the sheets, or the coverings that come next to the person in bed, a small train or a few spots of sulphur should be placed in each bed, say a half teaspoonful, one of the sheets lifted, a slight blow given, which causes enough disturbance of the air, so that the powder is disseminated over the whole internal surface. By repeating the powdering of the bed, say perhaps every other, or every third night, by bathing and changing clothes in about the same way and about the same interval for a week, the cure is effected in ordinary cases. Naturally an exaggerated case will take longer, as we know that the ova in the canaliculi take a longer time than that for development. The male acarus, as we know, is not a burrower; by the time the female has pro-ruptured (*sic*) into the external world from below the epiderm, he is either dead, or certainly functionless, for certainly few cases or case groups last over the ninth day under this treatment."

A CASE OF TETANUS SUCCESSFULLY TREATED WITH ANTITETANIC SERUM.

Reported by P. A. HILBERT, M.D., Melrose, Minn. (*New England Medical Monthly*, Nov., 1899, 427).

"The case that I wish to report is that of Johnnie B., aged twelve years, of German parentage, who had his feet scratched by fence wire, while helping his father, on June 17th. Five days afterward he complained of stiffness in the muscles of the neck and jaw, and on the following day was unable to open his mouth wide enough to permit the introduction of the little finger. The boy complained of sharp, shooting pains, which extended from his legs upward to the back of the neck. He was very nervous and sleepless, and had a temperature of 100.5°, the pulse rate being 110.

"I was called in on the 23d of June, and at once recognized that I had to deal with a case of tetanus. I prescribed ten grain doses of chloral hydrate, and telegraphed immediately for a supply of Parke, Davis & Co.'s antitetanic serum, which arrived promptly on the 25th.

"The muscles had become more rigid than they were at the time of my previous visit; the teeth were tightly set, so that not even a tooth-pick could be introduced between them. Ten cc. of the serum was given at once, and a second dose twelve hours later. A third dose of the same quantity was injected after a period of twenty-four hours.

"The following day I observed a marked improvement in my little patient which steadily continued, so that in six days all rigidity of the muscles had disappeared, and he was permitted to take substantial nourishment. The only alarming symptom that manifested itself during the period of convalescence was a very irregular and frequent pulse. This responded readily to appropriate treatment, and in a few days more the recovery had become so complete that the boy was able to drive a distance of twelve miles to town with his father."

PEDIATRICS

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ORIGINAL ARTICLES

AN ENLARGED LIVER IN RICKETS.*

By R. Tunstall Taylor, B.A., M.D.,
Surgeon in Charge of The Hospital for the Relief of Crippled and Deformed Children, Baltimore, Md.; First Vice-President of The American Orthopedic Association, Etc.

I WISH to report the following case of rickets, in which the liver was markedly enlarged:

C. L., a boy, 2½ years old, was admitted to the Hospital for Crippled and Deformed Children, on December 27th, 1898, from the mountainous region of Virginia, having five months previously suddenly stopped walking and the abdomen having progressively become distended.

The family history, which was obtained from parents of intelligence and refinement, and from the family physician, was absolutely negative as to syphilis, tuberculosis and cancer. The mother had had no miscarriages, and the other children, three in number, were healthy. An especial effort was made to obtain some specific history without success.

The Condition of the Patient from Birth:

The labor was easy. The question of feeding was troublesome from the first, as the mother developed puerperal fever and nursing was out of the question. Indigestion sapped the child's vitality for the first year. Cow's milk was used for the first six weeks. Mellin's and Nestlé's Foods were tried alternately for the next three months, then peptonized milk was given a turn for the next four months, followed by equal

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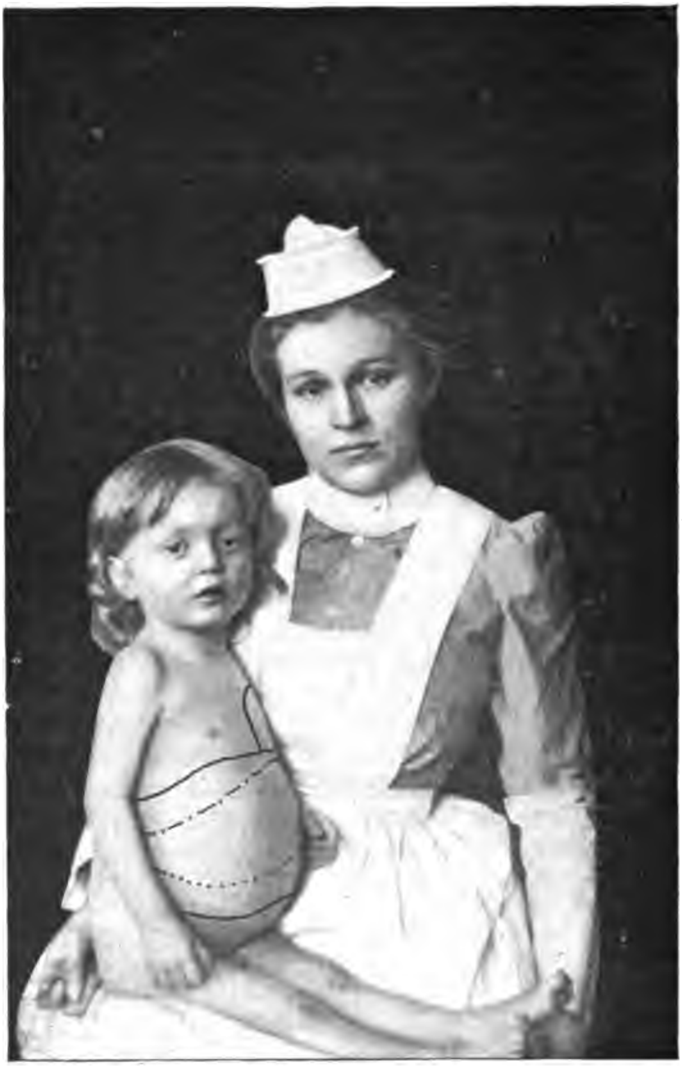
* Read by title before the American Orthopedic Association at New York, June 2d, 1899.



parts of oat meal gruel and cow's milk for the next six months, with potatoes, rice, gravies and meat.

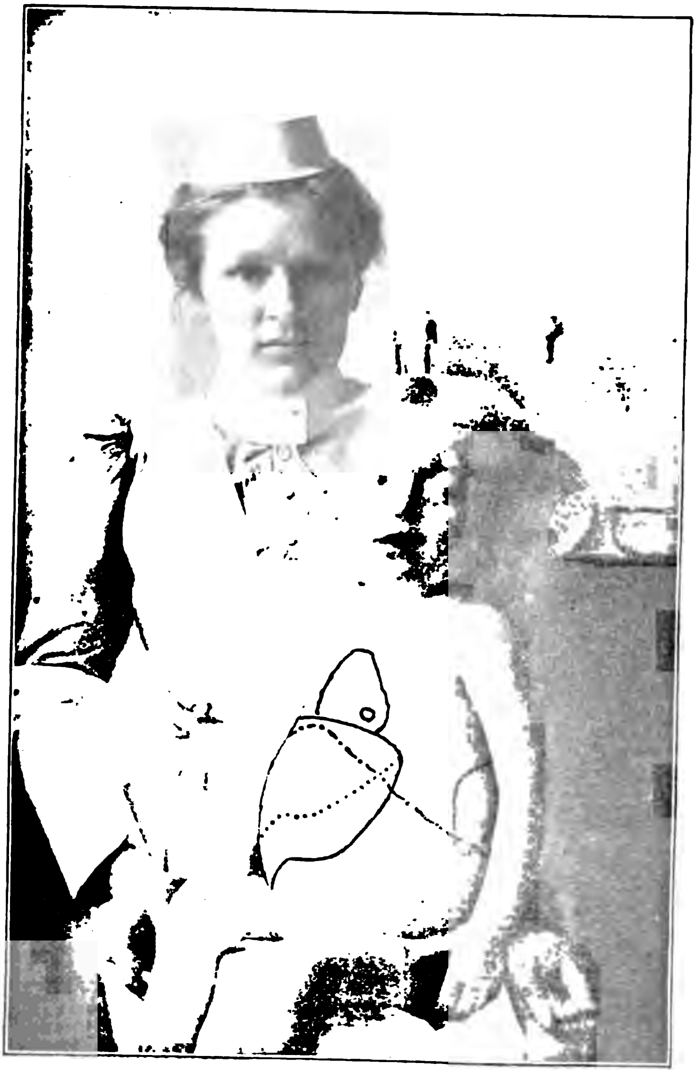
As the child had persistent colic, the attending physician ordered ten drops of whiskey three times a day, and the mother found that the whiskey, intrusted to the nurse-maid, rapidly disappeared. After seven months' use of whiskey, *i. e.*, from the time the baby was six weeks old, it was found that the whiskey had been given in teaspoonful doses three times a day, the nurse-maid supposing "the more it got the better it would become." She was exonerated from the suspicion of tippling, and the whiskey discontinued. The child walked and talked at one year, and cut its teeth normally.

From one year old to one year and nine months the child seemed healthy and well; at the end of which time, it had a sudden attack of fever, vomiting, diarrhea, and collapse. This was in August, 1898. The attack was transient, but the child was not able to stand, walk, or sit up unassisted (Parrot's paralysis) after it.

The parents immediately took the child to one of our larger hospitals in Baltimore for diagnosis and advice, and they state a diagnosis of rachitis was made, and "half milk, and half lime water" was ordered with "plenty of grease, gravy, butter, meat, white of egg, lemon and orange juice as food." At any rate the child was given and ate most heartily of these, and from this time his abdomen began to become distended, and the family physician made out a progressive hypertrophy of the liver, and gave "four grains of calomel weekly, and cascara nightly."

Condition on Admission to Hospital for Crippled Children:

It was a typical case of rickets with square head, open anterior fontanelle, beaded ribs, enlarged radial and tibial epiphyses, sweating about the head, and throwing the bed-clothes off at night with occasional attacks of laryngismus stridulus, tympanites, constipation and bronchitis, but I have never seen a case in which the liver was enlarged to such an extent as in this one. To state the result of our physical examination in addition to the points noted above, I would say, the child was plump, but flabby, anemic with a muddy hue, circulation sluggish, and extremities cold and mottled. Child was fretful and stupid looking. Craved odd things to



eat, such as nap on flannel wrappers, chalky substances, backs of picture books, etc. His mother had allowed him to chew on knife brick.

The teeth, buccal cavity, and fauces were negative, and the skin contained no rash nor scars. A few moist râles were heard in both lungs. The cardiac dulness was increased to the right parasternal line. The abdomen was remarkably distended and the right side entirely filled with liver. The abdomen's circumference at the umbilicus was 22 inches, being the same as that of the thorax at the nipples; midway between the umbilicus and the xiphoid cartilage the measurement was 24 inches. The right lobe of the liver extended to the right anterior superior spine of the ilium, 4½ inches down from the costal margin in the mammary line, and the left lobe 3¼ inches down from the same on the left side. The notch was just above and to the left of the umbilicus. The gall-bladder was not made out. The liver was smooth, not tender, and the edge was sharp. At no time since admission had there been any icterus nor ascites. The spleen was just palpable.

Average of blood counts showed,—

Red corpuscules	4,897,000
White corpuscles	25,000
Hemoglobin	75 per cent.

Fresh cover slips showed poikilocytosis, and differences in the size of the reds, some larger and some smaller than normal.

Stained specimen showed a secondary anemia of moderate grade.

Differential counts of leucocytes gave on an average,—

Neutrophiles	89.5	per cent.
Small mononuclears	4.0	" "
Large "	2.5	" "
Transitional leucocytes	3.5	" "
Eosinophiles	.5	" "

i. e., a leucocytosis at the expense of the small mononuclear leucocytes.

Urine examinations were negative, save increased phosphates. No bile pigmentation was noted.

Treatmeut.—As the points gained in the history were so emphatically against a specific origin, and the surface of the

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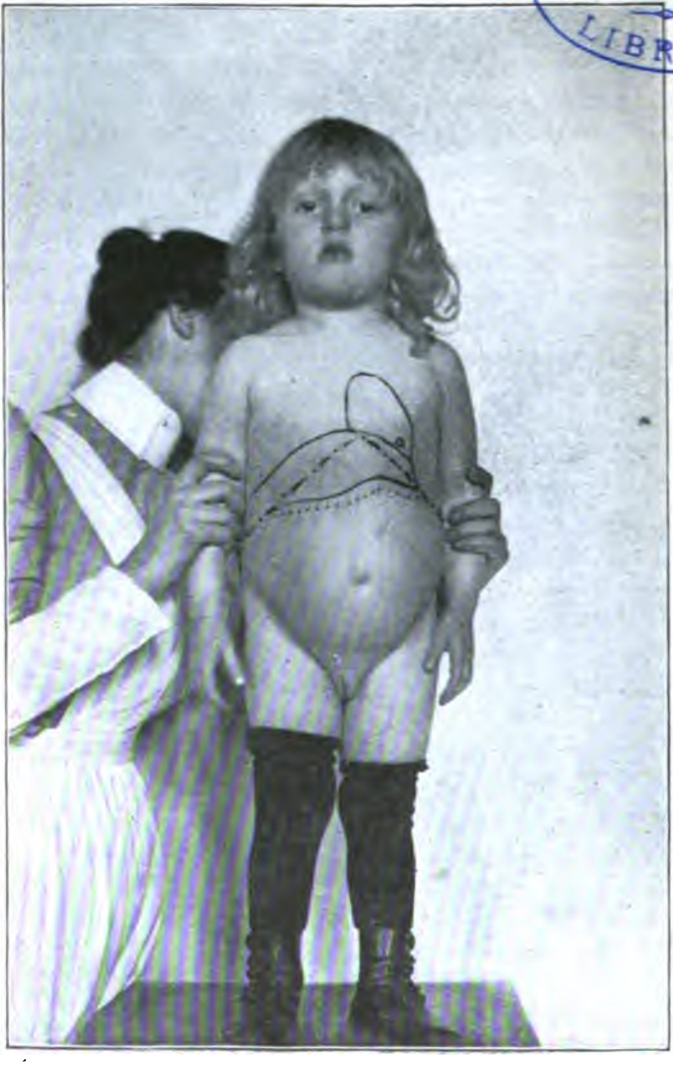

liver seemed so smooth, I began on a dietetic treatment, rather than an antisyphilitic, thinking perhaps alcoholic hypertrophic cirrhosis was present, and gave the child modified milk for four months, with the following drugs in turn without any appreciable gain, *i. e.*, calomel, tincture of nux vomica, saline cathartes, ipecac, etc.

The hygienic treatment of rickets was carried out scrupulously and the mechanical by recumbency on a Bradford frame. Cod liver oil and syrup of the iodide of iron were also exhibited and digested.

Iodide of potassium in increasing doses was then faithfully tried with negative results. Then the tropical treatment of hypertrophic cirrhosis of the liver was employed by means of stupes of nitro-hydrochloric acid (℥i to water ℥viij) with a slight apparent reduction in the size of the liver. The bowels previously constipated became regular, and the general condition improved; the child could stand and walk if assisted. This treatment was continued six weeks, and "House Diet" (children's) allowed. Finally mercurial inunctions were begun and the improvement has been most rapid, and progressive. The child is rosy and healthy-looking, and runs all around.

The liver is less than one-half the size it was on admission, and the right lobe does not extend down as far as the umbilicus, and the left lobe to half way between the xiphoid cartilege and the umbilicus.

This case, it seems to me, points out very clearly the close relationship which occasionally has been found to exist between syphilis and rickets.

It would also suggest the advisibility in all cases of rickets where the liver is enlarged of instituting an antisyphilitic treatment, as this is our most exact means for diagnosis, and can do the child no harm. In many cases the family history is lacking, and as in my case proves absolutely negative in throwing light on its specific nature.

The photographs show well the condition of the child on admission to the hospital, and at the present time.

2000 North Charles Street.

A CASE OF PATENT MECKEL'S DIVERTICULUM.*

By R. Abrahams, M.D.,

District Physician to the Mt. Sinai Hospital; Attending Physician to the
Skin and Genito-Urinary Department, East Side Dispensary,
New York.

B. R., a female infant, 7 weeks old. I saw her for the first time when she was 7 days old. She was born at full term and weighed about 8 pounds. There was nothing unusual about her birth. The attending midwife ligated the cord in the ordinary manner, leaving a stump about two and a half inches long. During the first week of the baby's life the mother as well as the midwife noticed that every time the baby cried the cord became inflated at its distal end, while the proximal end had the feel of a sausage.

On the seventh day they both observed an oozing of blood from underneath the shriveled and easily detachable cord. On examination it was found that the cord was completely atrophied, but yet slightly attached to the umbilicus. It soon fell off, however. Protruding from the umbilicus was an elongated mass, one and a half inches long and half an inch in circumference. The upper surface of the protrusion presented a fine aperture in the centre. The appearance of the mass was like that of a highly congested mucous membrane and bled at the slightest touch. It doubled in size when the baby cried lustily. Bubbles of air were seen to come from it at the same time. A thin probe was passed into the opening; the probe went into the abdominal cavity, and upon withdrawal traces of feces were seen on the tip. A few days later small particles of fecal matter and large gusts of flatus escaped through the opening of the tumor. The base of the navel was healthy; its edges tightly hugged the protrusion so as to form a constriction around it.

Aside from this anomaly there was nothing wrong about the child. She nursed very well, her bowels moved regularly and by the natural route.

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* Presented to the N. Y. County Medical Association, June, 1899.

During the six weeks of observation I noticed that the mass was tending to become smaller in size and more constricted at its base. Its surface looked healthier and ordinary manipulation did not provoke bleeding. Wind and streaks of feces, however, passed as before.

The appearance and the location of the lesion readily suggested the diagnosis of patent Meckel's diverticulum.

The treatment consisted in ligating the tumor with silk, excision and cauterization of the stump with silver caustic. The ligature was done as deep in the umbilical depression as was possible. The stump was cauterized twice, once immediately after removal of the mass and the second time three days after. The result is most satisfactory. I saw the child four months after treatment and found perfect closure of the diverticulum. In fact there was and is absolutely no trace or sign of any abnormal condition having previously existed in or around the umbilicus. The latter looks healthy and perfectly normal. No umbilical hernia or any tendency in that direction is noticeable. The infant thrives splendidly.

My friend, Dr. F. S. Mandelbaum, pathologist to the Mt. Sinai Hospital, kindly examined the specimen and reported as follows: "The sections are perfectly round in outline and contain in the centre a small opening. The entire circumference and also the opening in the center are lined with perfectly normal intestinal mucosa with healthy secreting glands. The portion between the center and the periphery is made up of circular and longitudinal muscular fibers and connective tissue, containing numerous small blood vessels. In other words, the section is one of intestine. The mucous membrane had bulged outward at the umbilicus, and hence we find mucosa both encircling the tumor and lining its central opening."

156 Clinton Street.

CONGENITAL LATERAL CURVATURE OF THE SPINE.

By Henry Ling Taylor, M.D.,
New York.

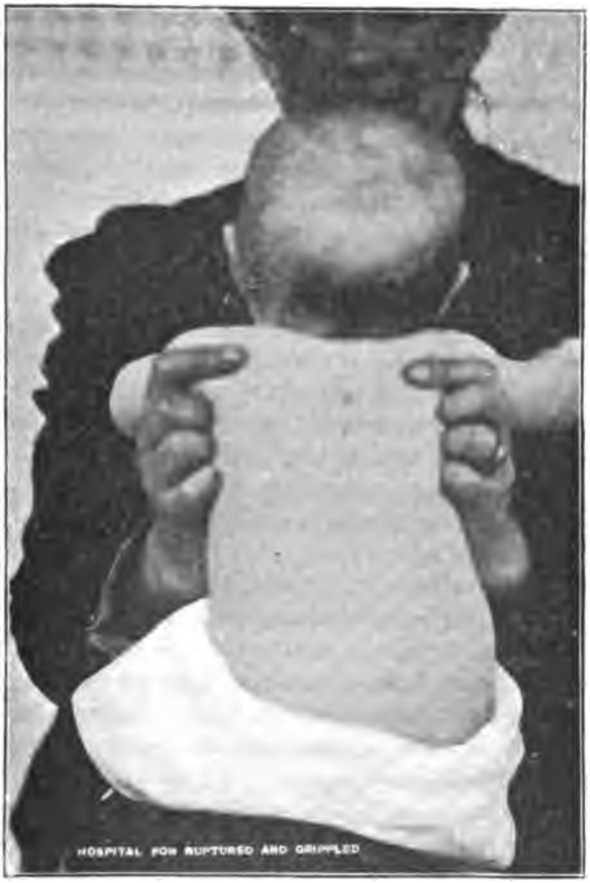
MOST authorities state that lateral curvature usually develops between the tenth and fourteenth years. Dr. Samuel Ketch found, however, from a study of 229 cases that over one-half occurred before the age of twelve, and forty-two in the first seven years. Eulenberg found five cases out of 1,000 under one year of age.

Within a short time I have observed two cases of lateral curvature in infants under one year at the Hospital for the Ruptured and Crippled. The first was a rachitic girl of nine months; the convexity of the curve was to the left in the dorsal region, and the mother stated that the deformity was first noticed at three months. The second case, shown in the cut, was a girl of three months, and the curvature had been noticed only two weeks. In this baby also the curvature was to the left, but somewhat lower. No evidence of rickets was discovered in this child; the deformity was probably congenital, and due to some malposition *in utero*. The mother stated that the vertex presented, and that the labor was easy.

The prognosis in the congenital and early rachitic cases is serious; if untreated, the deformity usually increases, and may become very severe.

Manual correction should be employed several times daily, and the child carried on the arm of the side toward which the spine bends. If the baby's spine curves to the left, it should be carried on the mother's left arm, and *vice versa*. A small firm hair cushion should be placed under the baby's arm of the convex side. If necessary, the child may be strapped to a frame with correcting pads for a time, and given daily massage. The most active treatment should be instituted while the child is small, as it will then be most effective.

60 West Fifty-fifth Street.


HOSPITAL FOR RUPTURED AND CRIPPLED

ALVEOLAR CATARRH IN CHILDREN.

By J. C. GITTINGS, M.D., and CHARLES H. JUDSON, M.D.
Philadelphia.

DURING the service of Dr. Harvey Shoemaker at the Children's Hospital Dispensary, Philadelphia, we observed among the cases of pneumonia a type which seemed to differ from simple bronchitis on the one hand and broncho-pneumonia on the other, and which we designate as "Alveolar Catarrh." The condition was described by Douglas Powell in *Diseases of the Lungs and Pleura*, pp. 179-198, as follows:

According to this author "the inflammatory process in alveolar catarrh begins as a proliferation of the alveolar epithelium. In the mildest cases the inflammatory products may be expectorated, leaving the alveolar walls undamaged; where the degree of inflammation is greater the proliferated epithelium and the leucocytes are sufficient to completely block the alveoli. The exudate undergoes degeneration and may be partially absorbed or partially expectorated, but the alveolar walls have been damaged and permanent local collapse results from their agglutination. More commonly the cellular products become inspissated and remain for a long time in a cheesy condition, or subsequently become cretaceous. In the severest cases the fibrous stroma is involved, resulting in hyperplasia and ultimately in fibrosis of the affected area."

Of the cases seen sixteen were ordinary catarrhal pneumonia, two fibroid pneumonia, three lobar pneumonia, one pleuro-pneumonia and one tubercular pneumonia, while five have been classified under the head of alveolar catarrh. The clinical history in brief of the last six cases is as follows:

Laura McC., 10 years old. Family history negative. Previous history chorea, with mitral disease as a sequela. Present illness, December 30, 1897. For the past few days anorexia, fever, chilliness, malaise, sore throat, slight unproductive cough, painful swelling of the right knee, lasting two days. The patient is anemic, but fairly well developed. Physical examination.—Heart, mitral systolic murmur, transmitted to axilla, apex displaced to left. Lungs, poor expansion, increased vocal fremitus and vocal resonance over right upper lobe, no notable change in percussion note, harsh inspiration and slight prolongation of expiration; no râles; temperature 102°. From December 30 to January 21st there were cough, with profuse muco-purulent greenish sputa, malaise and capricious appetite, gradually improving, but no sweats or chills. Physical examination revealed the following: Markedly increased tactile fremitus and vocal resonance over the right upper lobe anteriorly and posteriorly. Slight impairment of percussion resonance, harsh breath sounds, with prolonged expiration and occasional fine moist râles on deep inspiration. The temperature gradually declined, but at no observation was normal. January 21st, less cough, physical signs less marked. February 4th, practical cessation of cough. Small dry râles are occasionally heard at right apex on deep inspiration, otherwise the lungs are negative. The condition of the heart remains unchanged.

Jennie C., 3½ years old. Family history—Paternal grandmother died of phthisis florida. Previous history—Scarlet fever one year ago. Has never been well since. Capricious appetite, marked irritability, occasional attacks of diarrhea with mucous stools during summer. Six months ago pleurisy with effusion at right base. Present illness—When first seen, January 18, 1898, she had been sick two weeks with a slight cough, chilliness, fever at night, but no sweats. She was poorly nourished and anemic. Examination of the lungs at the right apex shows high pitched percussion note and creaking râles heard anteriorly and posteriorly. At the right base dullness on percussion with harsh respiratory sounds and many coarse moist râles. Temperature 101⅕°; pulse 118. On Jan. 22d and Jan. 26th at the right apex increased fremitus, high pitched percussion note, and prolonged, almost blowing expiration, but no râles. At the right base a small area of dullness persisted, over which auscultation revealed fine crepitant râles. Anorexia and general malaise persisted, the temperature continued slightly elevated (101° on the 22d, 99⅖° on the 26th). Two weeks later (Feb. 8) her general condition was improved, but she still had a slight flush in the evening. The cough was worse at night and in the early morning. She complained of pain in the right side. The physical signs at the right apex were found to be the same as when last noted, with the addition of fine moist râles. At the right base the signs were unchanged. On the 25th of Feb. no râles were audible, otherwise the condition of the apex was unchanged. Examination of the bases was negative. There was occasional hacking cough, no fever or sweats. Anorexia was still noted. The child was perfectly well all summer, and gained in flesh and strength. No fever, cough or sweats. October 20th she contracted pleurisy on the left side which went on to effusion. She had high fever and dyspnea for six weeks, but made a good recovery and has enjoyed good health since Christmas. When examined in March, 1899, the lungs were negative except for slightly higher pitched note on percussion at the right apex and slightly prolonged expiration following deep inspiration. No râles were audible. She was well nourished. There was no fever.

E. C., 6½ years. Family history—Grandmother died of phthisis. Previous history—Measles, acute articular rheumatism at age of 5. Scarlatina one year ago. In March, 1897, she was confined to bed and extension was applied to left leg for supposed coxalgia. Three weeks later she developed double pneumonia. At that time there was free expectoration of greenish yellow sputa, but streaks of blood were not noticed. The cough persisted, there was some hectic fever at night with free perspiration. Anorexia was often noted. She gradually improved and was about again in August, 1897, when the cough disappeared. For the next five months her health was fairly good. Present illness.—When first seen, Jan. 13, 1898, anorexia, fever, cough and slight noctural delirium had been present several days. Examination of the lungs showed at the right apex impaired percussion note, increased vocal resonance and fremitus, harsh expiration tending to bronchial and a few fine râles. At the right base expansion was poor, respiratory sounds were distant or absent except on forced breathing when moist and creaking râles were audible with harsh respiration. At the left base a similar condition was present, but less marked. Pain was felt at right base after coughing. Temperature 102⅘°. Pulse 136. January 14th, expiration was more blowing at the right apex and moist râles were present. At the right base moist râles were present both on inspiration and expiration. There was a hectic flush and free expectoration of greenish mucus. Temperature, pulse and respirations continued moderately elevated for the next two weeks and anorexia was marked. The cough became looser and expectoration ceased. At the right apex slight dullness and harsh respiratory sounds persisted, and a few moist râles were still audible at the base. Three weeks later, while the general health was improved, hectic flush was still present. Cough persisted, and a few moist râles were heard occasionally at the right apex at the end of inspiration. Increased fremitus and resonance were noted, and expiration was somewhat prolonged. Five weeks later physical signs at the right apex were unchanged, but no râles were audible. The bases of the lungs showed good expansion, and gave no evidence of disease. There was no cough, fever or sweats. The patient did well till the end of September, 1898, when the coxalgia recurred in the left hip, for which she now wears a high shoe and uses crutches. No abscesses have developed. In March, 1899, her lungs were negative to physical examination. She had had absolutely no pulmonary symptoms since last seen.

Susie B., 10 years. Previous history, tonsillitis, nine weeks ago, not well since. Present illness, Jan. 6, anorexia, fever at night, malaise with a dry unproductive cough. Physical examination.—Vocal resonance and fremitus increased in both apices. Percussion note unchanged, fine moist râles at end of forced inspiration. January 28th, seldom coughs, gaining in weight, occasional moist râles heard only over the left apex on deep inspiration.

Joseph M., 4½ years. Previous history, pertussis and pneumonia two years ago. Pneumonia again last spring. Present illness, October 29, 1898. General bronchitis. Examination of the right apex showed slight dullness anteriorly and posteriorly. November 8th, bronchitis improving, same signs at the apex. November 22d, no cough for the past week. At the right apex the resonance is still impaired, the respiration is harsh with an occasional râle on forced inspiration. Vocal fremitus is increased. From December 26th, to February 28th, 1899, several observations failed to show any material change in the physical signs, except that the râles had disappeared.

We wish to say that while we obtained no examination of the sputa in any of these cases the fault lay with the mother who failed to bring any for examination though repeatedly requested to do so.

In summing up the results gained from the study of these cases, we would emphasize the following points:

First.—That they were all "walking" cases.

Second.—That the process was essentially subacute, running a course of from six to eight weeks.

Third.—That of the five cases cited—although one was complicated by general bronchitis and two by congestion of the lobes—in all three the apices presented signs of alveolar catarrh which persisted long after the more acute processes in other parts of the lung had disappeared, and was still accompanied by slight fever, anorexia and other constitutional symptoms. In the remaining two cases the process was subacute from the start. On the other hand, these cases differed from tubercular infection in the absence of hemoptysis, night sweats and marked wasting, and in their ultimate recovery within a short time without the benefits of improved hygienic or climatic conditions. We would emphasize the fact that the clinical signs of alveolar catarrh might be readily overlooked unless careful exploration of the lungs was make in every case.

In contra-distinction to the cases of alveolar catarrh, we would like to call attention to the characteristic clinical features in this case of undoubted tubercular pneumonia of the right apex.

Sarah M., 5 years old. Family history, negative. Previous history, croupous pneumonia of the left lobe in October, 1896, from which she made a good recovery except that slight cough persisted. During the course of the next year there was a history of general malaise with occasional fever and sweats, and at times yellowish sputa freely expectorated. When first seen, January 25th, 1898, she had for several weeks past sufferred from evening fever, night sweats and harsh cough with a gradual loss of flesh; examination of the lungs showed at the right apex increased vocal resonance and fremitus, harsh, prolonged expirations and moist râles. This condition persisted for one month, during which time the patient was under observation. At the last visit whispering pectoriloquy was heard at the right apex, and hemoptysis had occurred after a spell of hard coughing.

In connection with this subject, we would like to quote from an article by Dr. Herman Dürck, in the *Deutches Archiv für Klinische Medizin*, 1897, Vol. 58, entitled "The Study of the Bacteriology and Histology of Pneumomia in Childhood and Pneumonia in General." His conclusions, which are pertinent, are as follows:

"Fourth.—The lungs of children not affected with pneumonia, but dying from other diseases, show a bacteriology essentially the same as that in a pneumonic lung. Here also the diplococcus pneumoniae predominates.

"Fifth.—We can therefore assume with certainty that even the normal lung of a healthy man contains bacteria which vary at different times; their mere presence is not sufficient to cause pneumonia, which needs for its development other influences injuring the organism.

"Sixth.—The intra-tracheal insufflation in animals of a pure culture of the different bacteria found in pneumonia does not suffice to produce pneumonia.

"Seventh.—On the other hand, pneumonic processes may be brought about by simultaneous or consecutive intra-tracheal application of bacterial cultures and strongly irritating kinds of dust.

"Eighth.—The injury of the lung through mere intra-tracheal insufflation of strongly irritating dust is sufficient to cause pneumonia.

"Ninth.—In the animal "catching cold" can artificially cause pneumonia. This pneumonia of dirt and cold comes from injury to the lung tissue, which gives germs already present their inflammation-causing properties.

The following conclusions from an article by L. Beco in the *Archive de Méd. Experimentale et d'Anat. Patholog.*, Vol. 11, p. 317, are also interesting:

First.—The inferior respiratory passages may be sterile in the healthy individual.

Second.—Frequently in lungs free from all apparent morphological alteration one finds pathogenic bacteria as a rule isolated.

Third.—These pathogenic bacteria are precisely those which are considered the habitual agents in various broncho-pulmonary infections, to wit, in the order of their frequency:

the pneumococcus, the streptococcus, and rarely the staphylococcus.

Fourth.—It is probable that during a long agonal stage bacteria do invade the deeper parts of the bronchial tree.

Fifth.—In the ordinary conditions this extension does not take place after death.

Sixth.—In healthy lungs we do not find the tubercle bacillus.

In conclusion, we would like to suggest the possibility that alveolar catarrh may originate and run its course without the agency of the tubercle bacillus, that the lesion resulting from alveolar catarrh may offer a suitable nidus for the growth of tubercle bacilli, and that though the number of our cases was small, the physical signs were sufficiently definite to warrant their classification under the above heading.

We would like to express our appreciation to Dr. Harvey Shoemaker for the privilege of reporting them and for much valuable advice.

A Method for the Removal of Foreign Bodies from the Nose and Ear.—The apparatus consists of a piece of india-rubber tubing, rather less in diameter than an ordinary lead pencil, and varying in length from 1 to 3 inches, according to the distance of the foreign body from the surface, attached to the nozzle of a brass syringe. The presence and approximate situation of the foreign body having been ascertained, the tubing attached to the syringe is passed into the nostril or meatus, as the case may be, and brought into contact with the foreign body. The piston of the syringe is then pulled out for a sufficient distance to create a vacuum in the tubing, and thus to draw the foreign body into or against the free end. The syringe is then withdrawn, and with it the foreign body attached to the tubing. In some cases it is advantageous to dip the tubing into glycerine before inserting it; this dimishes the chance of air entering between it and the foreign body.—*The British Medical Journal.*

EDITORIAL COMMENTS

Interlobar Pleurisy.

In a late copy of the *Gazette des Hôpitaux* (Nov. 25, 1899) is to be found an account of the most recent French views upon interlobar pleurisy. The article, abridged from an account given by M. Dieulafoy in *La Semaine Médicale*, November, 1899, is one of such exceptional value and succinctness that it will repay reading in full.—Interlobar pleurisy is defined as the pleurisy which develops and becomes encysted between two lobes of one lung. Normally the pleural surfaces bounding a fissure are simply apposed, but if adhesions cause the margins of the fissure to unite, the interlobar pleura becomes isolated and makes a pocket—a closed sac favorable to the development of an encysted pleurisy. This pleurisy—almost always purulent—may be deep, and in the beginning may simulate a pulmonary disorder. The abscess may occupy the whole interlobar space or only a part. Sometimes several secondary pockets are found. After adhesions are formed and fluid is effused, the normal situation of the fissures is often entirely altered. As to *etiology*, interlobar pleurisy is oftenest primary. It may be secondary—usually to pneumonia. Experience teaches that the primary cases frequently owe their origin to the pneumococcus. *Signs* are often obscure. Particularly in the beginning the diagnosis offers great difficulties. The signs which usually indicate inflammation of the lung (râles, relative dullness, etc.) are apt to predominate and thus mask the first clinical manifestations of pleuritis. It is only after eight or ten days, when the effusion has grown rather large (at least 400 or 500 grams in the adult, 200 in children), that the indications become clearer. Percussion now allows one to mark out behind or in the axilla a more or less extended zone of dullness, corresponding to the interlobar fissure. The persistence of sonorous zones above and below the dull zone, along the vertebræ, at the base of the thorax, and in the semilunar space will permit the elimination of sero-fibrous pleurisy. The diagnosis of encysted interlobar pleurisy then becomes possible. The principal *functional symptoms* are three: Dyspnea, hemoptysis, and the coughing up of pus from rupture of the sac. Dyspnea is more severe than in ordinary pleurisy; hence in the presence of a pleural affection involving intense dyspnea one should think first of all of an encysted pleurisy. Hemoptysis may be abundant and recurrent. It has appeared sometimes before and sometimes after rupture. It seems due to ulceration of the walls of the cavity. Rupture is much more frequent in encysted pleurisy than in ordinary empyema. It occurs almost always early and may be predicted a day or so beforehand by the bad odor of the breath. The symptoms are variable. If the discharge is abundant the patient is taken suddenly with violent dyspnea, and coughs up masses of fetid, muco-purulent sputum. Most often, however, the rupture consecutive to an encysted pleurisy is not attended with considerable discharges of pus at one time.—Once the pus-cavity is empty, it collapses partly and may completely cicatrize. More usually signs of a cavity appear, the fever runs high, sweating is constant, the patient emaciates rapidly, and without surgical intervention a fatal result is assured. Medical treatment at this stage is valueless.—A small and intermittent discharge of fetid pus from the encapsuled cavity should not be mistaken for bronchorrhea. B.

Thyroid Extract in the Treatment of Fractures

When we read for the first time a title like the above we are often stunned for an instant with curiosity to know by what mental process anyone could ever have come to use such a remedy for such a condition. We wonder whether the drug was administered by blind chance or whether some analogy, with or without the hypothesis of a cause, could have turned the therapeutist's attention in such a direction. In this instance the mode of reasoning which lead to experimentation is not so difficult to discover as at first sight one might think. That the administration of thyroid extract has some influence on the growth and development of bone in infantile myxedema, is well established. Among other beneficial results of its administration in this disease, a marked increase in stature is frequently observed. Some writers claim that in cases of retarded growth from other disorders, such as rickets, athrepsia and albuminuria, the administration of thyroid extract will cause increase in the length of the long bones, provided ossification of the epiphyseal cartilages has not taken place. Hoffmeister showed by means of the X-ray that the changes in the bones of animals from which the thyroid gland has been removed are very similar to those which occur in the bones in infantile myxedema. They consist mainly in arrest of growth in the diaphyses and slow ossification of the epiphyses of the long bones. Considering these facts, some were led to watch the effect of removal of the thyroid gland in cases of fracture artificially produced in animals. They claim that union was remarkably retarded in many instances. From such observations as those above cited, some hopeful therapeutists tried the effect of organo-therapy in delayed union of fractures, and have reported quite a number of cases apparently cured by this means alone after several of the usual methods had failed. Thus M. Potherat, at the meeting of La Société De Chirurgie, November, 1899, presented for a colleague a report of two cases treated successfully by this method. The first case was a compound fracture of the leg which massage and immobilization in plaster failed to cure after twenty-four days. Under thyroid consolidation took place in a few days. The second case was a fracture of a rib which had not united after thirty-five days of the usual treatment. In ten days union was firm, but the patient died on the eleventh day of cerebral hemorrhage. The author wonders whether the treatment had anything to do with occurrence of the latter. He thinks that this treatment is not devoid of danger, and should be resorted to only after deliberation. T.

Immobilization in Diseases of the Joints

In reviewing the reports of the French Congress of Surgery held in October last (*Revue Médicale*, 1899, p. 464), nothing is perhaps more observable than the reaction expressed against long immobilization as a cure for articular tuberculosis. M. Calot expresses the opinion that in a great majority of cases a cure can be effected by antiseptic injections (iodoform, guiacol, creosote), followed by a plastercast for a few weeks only. He then removes the cast, and keeping the patient still in bed begins a daily series of careful passive gymnastics. If deformity is not present he even deprecates injection and recommends simple rest in bed with no instrumental constraint whatever of the affected limb.—M. Lucas-Championière emphasizes the fact repeatedly in an extended and interesting discourse that long fixation is just as injurious to a diseased as to a healthy limb, and that as soon as possible after injection or operation movements of small amplitude should be systematically practised. All the speakers agree that by this method ankylosis can undoubtedly, in a great majority of cases, be successfully avoided. B.

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, December 14, 1899.

HENRY KOPLIK, M.D., Chairman.

A Case of Ichthyosis.—Dr. ROSA WELT-KAKELS presented a case of congenital ichthyosis in a Bohemian girl of twelve years. The family history was negative. Three brothers were living and healthy, and no other member of the family had ever suffered from a similar skin affection. According to the statement of the child she had not been ill before, and had only come to the dispensary for the purpose of being vaccinated. The child was not very well nourished. The skin presented a grayish, parchment-like appearance. The whole surface was involved, but the ichthyosis was marked on the scalp. The iris differed in size on the two sides. The change in the skin was most marked on the lower part of the body. The sole showed considerable epidermic thickening while the parchment-like skin of the lower extremities was developed into irregular plates somewhat resembling the skin of an alligator. In these cases there was often an atrophic condition of the sebaceous glands. In some cases there was an absence of the thyroid gland. The skin affection was always worse in winter than in summer. Hebra had reported a case in which the ichthyosis had entirely disappeared after an attack of small-pox. As for the treatment, baths, followed by inunctions of glycerine or lanolin had been found beneficial. Jacobson had seen good results from the use of thyroid extract.

Dr. A. JACOBI said that there was a good deal of soft subcutaneous tissue under the desquamating skin, and evidently hypertrophy of the epidermis. The case appeared to be a rather mild one. The thyroid seemed to be very small because the rings of the trachea were quite distinct down to and behind the manubrium. There was a great deal of dullness over and a little beyond the edges of the manubrium sterni. When the child leaned backward there was less dullness. When the child leaned forward the dullness was increased. This method of of examination of the thymus he believed would prove very useful in the future. Only a year and a half ago he had been called to see a child who was dying, and it had been impossible to examine it on that account. He had percussed the thymus because there had been rapidly increasing suffocation, but he had been unable to convince himself that there was anything wrong. Just prior to making the post-mortem examination while the body was lying down percussion had yielded a negative result, yet, on making this examination, the thymus had been found decidedly enlarged. Since then he had given a good deal of attention to this matter of percussing to determine the size of the thymus. When the child was on the back one seldom discovered anything worthy of note, but more than once he had been able to determine enlargement of the thymus by having the child lean forward. Percussion in this child seemed to indicate a persistent thymus. Regarding treatment, Dr. Jacobi said that it would be very easy to remove the scabs. If the child were kept in a warm bath, the better part of three or four days continuously the skin would become smooth and soft. This bath could be repeated from time to time if necessary. There was no hardship in such treatment. He had kept patients for two or three days and more at a time in a warm bath. Lanolin would penetrate the tissues and keep the skin soft. He would also keep the child on arsenic for a number of months—perhaps for a year or two. He would be disposed to try internally the administration of the thyroid extract.

Speaking of the use of thymus Dr. Jacobi said that he had lately tried it in a case of pseudo-hypertrophy occurring in a boy of five years. He had begun with one grain of the thymus extract three times daily, and had gradually increased it up to five grains without any effect. He had then run it up to fifteen grains with a similar result. He had then sent for a fresh bottle of the preparation taken directly from the factory. He had given of this preparation up to forty grains three times daily, and as there had been absolutely no effect from it he had discontinued its use. He knew that this child had actually taken of the remedy because the little one had been under his control in the hospital.

Dr. Koplik said that the experience of Dr. Jacobi with the thymus extract had been duplicated by European observers.

Regarding percussion of the thymus he said that if the dullness was uneven on the two sides of the sternum it was supposed to establish the existence of the thymus gland.

Discussion on Intussusception.—The Mortality and Treatment of Acute Intussusception.—Dr. **Frederick Kammerer** opened the discussion. He said that the pathology of intussusception was well understood, and the diagnosis was generally easy. The measures for its relief were purely mechanical and had been clearly defined. Non-operative treatment of intussusception was less in favor now than formerly and early operation had come more into favor. Of the bloodless method there was, he thought, only one deserving of any serious consideration, viz , the injection of fluid into the rectum. Inflation of the rectum with air, carbonic acid or hydrogen gas was also in use, but he had had no personal experience with it. The method of injecting fluid into the rectum was only applicable to the cases of intussusception of the colic or ileo-cecal variety. Intussusception of the small intestine could not, and should not, be treated by enemata of water. From some personal experiments, made some years ago, he did not believe that any amount of pressure could be exerted in the small intestine without rupture of the colon by the use of enemata. Mortimer had found cracking of the serous coat of the colon in dead bodies of young children when the height of the reservoir of fluid was only five feet. Medical literature contained quite a number of cases of rupture of the colon by the use of enemata, and this explained the tendency of modern times toward discouraging the use of enemata after the first twenty-four hours. The changes at the neck of the intussusception occurring after the first day in acute cases made this treatment hazardous. The quantity of water injected seemed to him a matter of minor importtance, because the capacity of the bowel varied so greatly in different individuals. The hydrostatic pressure of more than three or four feet should never be allowed in small children. The most serious objection to the enema method was the inability of the operator to determine whether or not reduction had been effected. Many of the reported recurrences were probably to be explained by incomplete reduction by the use of enemata. In acute cases the reduction should be made only very early in the case, under complete anesthesia, and once only. Hot water should be used in preference to cold water. After one failure of this treatment laparotomy was indicated. When laparotomy had been determined upon the reducibility of the tumor was of the greatest importance to the surgeon. The mortality in reducible cases had been shown to be less than half that of the irreducible cases. He personally believed that the mortality from intussusception could be vastly reduced if all cases were operated upon as soon as the diagnosis had been made.

Technique.—In regard to the technique of reduction it seemed to him safer not to rely entirely on traction, but to compress the sheath at a point a little above the point where the intussusception could be felt. Nothing should be done to prevent reinvagination because of the great rarity of this accident, but if for any reason it seemed desirable he would favor shortening the mesentery by folding it in the direction of its long axis, and retaining this by a few sutures. The establishment of an artificial anus, except when absolutely necessary because of the desperate condition of the patient, did not commend itself because of the attendant high mortality. Intestinal anastomosis was not desirable because of the danger of septic infection. A curious accident had been recently reported as the result of this procedure. Some weeks after the operation the intussusception had moved down further, causing acute obstruction and necessitating another laparotomy which finally caused the patient's death. Total resection had been uniformly fatal, and had been abandoned for partial resection. Of nineteen patients operated upon by the latter method, eleven had recovered. Recently Kocher had reported five cases of total resection, all of which had been successful. According to his own experience, young children bore these operations exceptionally well—fully as well as adults, provided there was no great loss of blood. Barker, who had had perhaps the largest personal experience in the operative treatment on children, had commented upon the fact that children bore such operations fully as well as adults. Shock from manipulation of the intestine should be much less severe in children that in adults with a well developed nervous system.

Dr. CHARLES L. GIBSON said that he had studied 187 cases of intussusception, dating back as far as 1888. All of these cases had been acute. In operating for intussusception one found three conditions of the intussusceptum each varying materially in treatment and prognosis, viz.: (1) The reducible; (2) the irreducible; and (3) the gangrenous. In early operative intervention the operator found a reducible intussusceptum with a good prognosis. Combined forms might exist—that is, and intussusception might be reducible and yet gangrenous. He would insist that the prognosis depended absolutely upon the promptness of relief. Considering the bearing of the condition of the bowel on the mortality rate, he had found that out of 126 reducible cases, 45 died, giving a mortality of 36 per cent.; of 14 irreducible cases, 9 died, giving a mortality of 64 per cent.; of 23 gangrenous cases, 22 died, giving a mortality of 95 per cent.; and of 24 cases in which it had not been clear whether the bowel had been irreducible or gangrenous, 18 had died, giving a mortality of 75 per cent. The nature of the operation effected the mortality as follows: of 126 cases treated by reduction, 45 died, giving a mortality of 36 per cent.; of 34 cases in which an artificial anus had been made, 30 had died, giving a mortality of 83 per cent.; and of 32 cases in which resection had been done, 26 had died, giving a mortality of 81 per cent.

Dr. Frederick Holme Wiggin said that his attention had been directed to this subject in 1894, by a child whom he had treated by injection in connection with the late Dr. J. Lewis Smith. He had been impressed with the roughness of the manipulation, and the bad effect on the child, although the tumor had been reduced and the child had recovered. It had seemed to him at the time that laparotomy would have been far less severe and dangerous than the enema treatment. After this he had collected a number of cases which seemed to prove quite clearly that the injection treatment was not safe, was thoroughly unreliable, and was followed by a far greater mortality than laparotomy done by competent surgeons at a sufficiently early stage. Therefore, given a case of acute intussusception in a young child, what was the best treatment? The surgeons were fast coming to the conclusion that, under ordinarily favorable circumstances, laparotomy was best. However, many medical men still advocated the injection method. One physician had advised that a bulb syringe be used in preference to the fountain syringe, because with the latter sufficient pressure could not be readily obtained. There was now sufficient evidence on record at the present time to prove that young children could stand laparotomy well, and hence there should not be any reason for continuing to advocate the enema treatment. The operation could be done in favorable cases in fifteen minutes, and with much less shock than that associated with inverting the child and forcing water into the bowel. The position taken by Dr. Kammerer this evening seemed to him the only one warranted in the light of what can be accomplished by modern surgery. He thought in the near future the profession would come to look upon the injection method as just as inappropriate for the treatment of intussusception as it would be to employ such a method at the present day in a case of strangulated hernia.

Dr. WILLY MEYER said that prompt laparotomy seemed to him the only proper treatment for an acute intussusception in a child. The fact that such a large percentage of these cases were of the ileo-cecal variety should be sufficient to prevent the very general use of the injection treatment. Moreover, when one thought of the amount of force necessary at the time of operation to reduce an intussusception, the danger and unreliability of the enema treatment must be obvious. From an annoying personal experience he was led to call attention to the necessity for emptying the bladder by the use of the catheter before doing laparotomy. He recalled one case, chronic intussusception occuring in a boy of thirteen, whom he had seen in the eighth week. The boy had been able at that time to pass gas and feces. He had resected a portion of the ileum and colon, and had made an anastomosis with the aid of the Murphy button. The boy had recovered, but when seen a few months later his condition had been bad. Dr. Meyer had then opened a portion removed at the time of operation, but which had not been excised before for fear of injuring the specimen, and had found that it enclosed a small round cell sarcoma. He would, therefore, insist upon the necessity for searching for such a tumor in these chronic cases, as similar cases had been reported by other observers.

DR. A. JACOBI said that nowadays, when superfluous operations went unpunished, it was very easy to say "operate at once." The objection to non-bloody treatment was that in the hands of some physicians, it had been absolutely brutal and senseless. The statement had been made here some years ago that enemata in cases of intussusception were useless except when the reservoir of fluid was at a height of fourteen feet. The gentleman applied the hydrostatic laws valid for iron pipe to the intestinal tract. Over thirty years ago he had had considerable experience with inflation of the rectum with carbonic acid gas, but he had then abandoned it for the enema treatment. The fountain syringe should not be higher than from twelve to eighteen *inches* above the anus of the patient; then there would be no harmful pressure. As the diagnosis was very easy no time need be lost. The child should be placed head downward, and hips up, and supported on a pillow. Under chloroform anesthesia warm water should flow from the height named. While this was being done the intestine should be gently manipulated, and the anus kept closed. This treatment, in his hands, had resulted in a good many immediate recoveries. He would, therefore, recommend that in every case of acute intussusception such an injection should be given, and, if unsuccessful, it should be repeated at intervals of one or two hours two or three times. If still unsuccessful, laparotomy should be performed. Resort to laparotomy, in the first instance, in every case did not seem to him justifiable. It was true that in quite a number of cases of intussusception in young children there would be found quite early indications of localized previous peritonitis, particularly in children who had been suffering previously from diarrhea. Close to such an area of localized peritonitis it was reasonable to suppose that peristalsis might be easily interrupted; this was one of the causes of intussusception. We had seen cases in which the integrity of the bowel would be so impaired as to make manipulation dangerous. This emphasized the great importance of avoiding much hydrostatic pressure and rough manipulation.

Dr. Charles G. Kerley said that the majority of cases that he had seen had been treated for gastro-enteritis or something of the kind, so that it was well to insist that bloody stools with little fever and a prostration entirely out of proportion to the other symptoms, pointed very strongly to the presence of an intussusception. It was new to him that children bore laparotomy so well in these cases. He had successfully treated two cases of intussusception by the enema treatment, using in one case the hydrostatic pressure of four and a-half, and in the other of five feet. He thoroughly agreed with Dr. Jacobi regarding the advisability of giving the injection treatment a trial. He did not believe in postponing operation more than a few hours, but certainly favored trying injections and manipulation for twenty minutes or more at a time.

Dr. JACOBI explained that he had advocated the injection treatment particularly for those cases in which no tumor was found, or only a small one high up. Where the tumor was easily detected and was situated in the rectum it was useless to attempt reduction by other means than operation.

Dr. ARTHUR L. FISK said that his experience had been limited to three cases of intussusception. Two of these had been gangrenous at the time of operation, and both had proved fatal. The third case had occurred in a child of six months in whom the symptoms had developed the night before, according to the mother. He had made use of the method as described by Dr. Jacobi, with the exception that anesthesia had not been employed. Under the manipulation he had felt the reduction take place, and the child was evidently more comfortable. About four hours later he had been hastily summoned because of the reappearance of the tumor. He had then repeated the injection with the result that the tumor had been reduced so that it could be no longer felt. It had then occurred to him that possibly by passing in a soft rubber tube and leaving it there he might be able to prevent a recurrence. He had then passed it in almost to its entire length and had been able to feel it beyond the transverse colon. The child had slept well that night, but about seventeen hours later the child was in collapse and was vomiting stercoraceous matter. Notwithstanding the apparently hopeless condition of the child he had performed laparotomy, and had resected the intestine. He had found that the intussusception had been first of the ileo-cecal variety, and had then carried the caput coli up through the colon. What he had succeeded in reducing had been the portion in the colon, and it was evident from the appearance of the specimen that the portion in the ileum could not have been reduced by any possibility by means of injection. He could not understand how such injections could reduce the ileo-cecal variety of intussusception; on the contrary, it seemed to him that such hydrostatic pressure acted as a block and closed the ileo-cecal valve the more tightly. This variety of intussusception, he believed, could not be cured by injections, and hence should be operated upon very early.

Dr. Koplik reported two cases upon which the late Dr. Van Arsdale had operated. They had been of the ileo-cecal variety, and injections had been tried but had proved futile. The patients were both young infants. In a third case he had tried the injections—a case in which only a small tumor could be felt in the right of the umbilicus, and nothing could be felt in the rectum. The child had died unrelieved because no operation had been permitted.

CORRESPONDENCE

Bromoform.

BOSTON, MASS., Dec. 23, 1899.

Editor of PEDIATRICS, *New York:*

DEAR SIR.—Will you kindly allow me to suggest to your readers a formula for a bromoform mixture which has the advantage of containing a minimum of alcohol (or none), admits of accurate dosage, is susceptible to change in dosage without altering the proportion of the other ingredients. It admits also of adding other medicaments if desired, and is very palatable:

℞	Bromoform	ʒss
	Tinct. Tolutanæ	ʒi
	Mucilaginis Acaciæ	ʒii
	Syrupi	ʒiv
	Aquam Menthæ Viridis, ad	℥ii

M Place the mucilage in the bottle, add an equal volume of syrup, then add the bromoform and tincture of tolu in portions, shaking well after each addition. A thin emulsion ensues, to which the rest of the syrup and the mint water are to be added, with agitation.

This emulsion slowly deposits, but without separation of bromoform or tolu, and can be quickly rendered homogeneous at any time by simple agitation.

The above formula contains two minums of bromoform per teaspoonful. It may be increased or diminished at will, If it is desired to eliminate alcohol altogether syrup of tolu may be employed in place of the tincture and simple syrup.

Trusting that some of your readers may find this suggestion useful, I remain, Yours very truly,

WILBUR L. SCOVILLE,
Pharm. Editor of *The Spatula.*

Mass. College of Pharmacy, Boston, Mass.

Cavity in the Lung of an Infant.

BROOKLYN, N.Y., December 20, 1899.

Editor of PEDIATRICS, *New York:*

SIR.—In the December number of PEDIATRICS I find an abstract from Société Centrale de Médicine du Nord, in which M. Ausset describes a cavity found in the lung of a child just eleven months old. I did not appreciate how rare the condition was until he said that had he found only three cavities in children and these in ones of much greater age than the one referred to.

This recalls to me an autopsy I performed on a child five months and twenty-one days old in which I found in the apex of the lung a tuberculous cavity occupying the entire lobe. The cavity, I should say, was the size of a tangerine orange. Its general shape was spherical, its walls rough and ragged, and the pulmonary tissues adjoining, well infiltrated with tubercles. The lower lobe was completely consolidated. The right lung presented a great number of tubercles in various stages of degeneration.

There was general glandular involvement and the pia mater was studded with tubercles. I noted that the child's appearance was not of a tuberculous type, but that it was well nourished and apparently healthy.

M. Ausset called attention to the presence of numerous vascular bands. The blood vessels I found in this case could be outlined along the roughened walls but none ran through the space. No history of hemorrhage was present.

The cavity contained a little broken down material. Firm adhesion had formed between the two layers of the pleura around the cavernous area.

This case I recorded in the Autopsy Book of Kings County Hospital.

WILLIAM ANDERSON PAYNE, M.D.

The French National League against Alcoholism (Société Française de Tempérance) held its annual assembly on the 26th of November. Several formal addresses were read, and the annual awards of prizes announced.—*Progrès Médical.*

PRACTICAL NOTES

Poisonous Effects of Filix Mas and Their Prevention. —Dr. GRAWITZ (*Deutsche Medizinal-Zeitung*, October 30) says that the best-known injurious action of the drug is its poisonous effect on the nervous system. Besides such mild symptoms as nausea, vertigo, syncope, and tremor, there occur severe convulsions, absolute unconsciousness, and delirium, which eventually may terminate in coma and death. In many cases the blood is so altered as to destroy the red blood cells by the absorption of the poisonous property of the ethereal extract, with the subsequent deposit in the liver, thickening of the bile, and production of icterus. Not infrequently, as the result of treatment by filix mas, gastro-intestinal catarrh occurs. In otherwise healthy persons, inflammatory symptoms on the part of the kidneys are rare. If, however, old inflammatory conditions exist in the renal organs then the ethereal extract might very well cause an increase in the symptoms and pathological condition. The same applies to the liver. From the foregoing experience it may be concluded that the large doses of 20 gm. and over, as formerly given, are very unsafe, and that in adults 8–10 gm., and in children aged over six years, half that amount, are the proper doses. In using the drug all laxatives, oils, and oily vehicles, particularly the much-used castor oil, are to be avoided, inasmuch as the poisonous acid of the extract is very easily absorbed by oily substances. The most important conclusion of the toxicological examinations seems to be the observation that every weakness of any special organ, *e.g.*, liver and kidney, and that every general lack of resistance on the part of the entire organism increases the danger of a local or generalized poisonous effect. In the treatment for ordinary tapeworm the drug should be given for therapeutic and not for diagnostic purposes. On account of the possibility of collapse due to rigorous fasting and purging before the expulsion, the preliminary course of treatment has been omitted for many years. The day before expulsion the patients take their usual meals. On the morning of expulsion they receive Carlsbad and Epsom salts upon an empty stomach, and after a movement of the bowel the drug is given with coffee. In some instances even the laxative is omitted.—*Med. Record.*

Treatment of Prolapse of the Anus in Infants by the Introduction of Suppositories of Ice Into the Rectum.—Dr. HAJECH recommends for chronic prolapse of the rectum, which is so frequent in infants, a procedure which has succeeded even in severe cases. It consists in introducing pieces of ice into the anus while the prolapsed intestine is being reduced. For this purpose small truncated cones of ice are used, from 7 to 8 cm. long and having a diameter at the base of 2½ to 3 cm. One of these suppositories is enveloped in iodoform gauze, the summit of the cone is passed into the center ofthe prolapsed gut and the latter gently reduced. This procedure is not at all painful and the tampon is not usually expelled. After each movement a new piece of ice, surrounded with iodoform gauze, is inserted. The prolapse recurs less and less often and soon ceases.—*Sem. Méd.*

Convulsions in a child should always lead to systematic exploration of the thorax.—*Med. Record.*

ABSTRACTS

THE MOST SUCCESSFUL TREATMENT OF SPINA BIFIDA.

W. O. **Henry** (*Amer. Jour. Surg. & Gyn.*, 1899, xiii, No. 5, 81) in reporting a case of spina bifida successfully operated upon, says, by way of introduction, that spina bifida is one of the most distressing conditions which the mother ever witnesses in her new-born child. She recognizes it at once not only as a deformity, but as a serious menace to the life and health of her offspring, as well as one which makes it extremely difficult to handle the child. By the term we simply mean a protrusion of a part or all of the contents of the spinal canal through an opening in the vertebra from lack of development.

As to the cause of it nothing is known. It often occurs in connection with other malformations, as hydrocephalus, cleft-palate, hare-lip, club-feet, or other similar defective development, but why any of these should exist has never been determined, nor any satisfactory theory advanced.

As to the location of the hernia, it may occur anywhere in the course of the canal, but is most common in the lumbar and sacral regions.

Three varieties are generally recognized: First—Meningocele, or the hernia of the membranes alone, filled with cerebro-spinal fluid. Second—Myelo-Meningocele, or protrusion of the cord or large important nerves, together with the membranes filled with cerebro-spinal fluid. Third—Myelo-Cystocele, or Syringo-Myelocele, that in which not only is the whole thickness of the cord and its membranes in the protrusion, but the central canal of the cord is dilated into a pronounced cyst.

Bradford and Lovett in their "Orthopedic Surgery" give no account of this deformity; but in his article in Park's Surgery, Bradford says: "In the majority of instances the tumor ruptures during infancy, the fluid is evacuated, and the patient dies with convulsions or from a septic spinal meningitis."

Sayre gives a short description of the trouble and says: "The treatment of this disease is very unsatisfactory." He does, however, give the details of one case which he cured by simple ligation many years ago.

Wyeth says in his most recent work, "The prognosis is as a rule very unfavorable."

Da Costa says: "Spina bifida usually causes death."

Tillmann says: "Meningoceles alone are capable of successful surgical treatment."

Muscatello advises against operations for Myelo-Meningoceles.

According to Wernitz, of ninety children with spina bifida, not operated upon, the majority died within five weeks of birth and only twenty lived to be over 5 years old. Since the mortality is so high, unless something is done to save life as well as to relieve the deformity, two lines of treatment are in vogue at the present time, each having its special advocates.

The Injection Treatment.—By the introduction of irritating fluids it is hoped to produce adhesive inflammation and obliterate the sac. Of the fluids thus used, it may be said that Morton's (iodine, 1 part; iodide of potash, 6 parts, and glycerine 50 parts) is undoubtedly the best.

There are several serious objections to this method of treatment: First, the great danger of meningitis: second, the danger of death on the table from the use of any of these fluids; third, not knowing positively the contents of the sac, it would be a serious matter perhaps to produce an adhesive inflammation between the walls of the sac and the important nerves or possibly the spinal cord, leaving all outside of the natural bony canal in which they belong.

The London Clinical Society found that of 82 cases thus treated 37 died, 35 recovered, 4 were slightly improved and 5 were not benefited. Powers found that of 15 cases treated with Morton's fluid 4 died, or there was a mortality of 26.66 per cent. In the "Annual" for 1886 it was said in reference to the use of Morton's fluid: "A number of cases are known to have died on the table while being subjected to this operation, while others have succumbed to a rapidly developing hydrocephalus."

Operative Treatment.—The only other practical line of treatment is excision. Hildebrand has collected from literature 87 cases, with 73.5 per cent. of cures. Hanson has collected 150 cases operated upon, with a mortality of 29 per cent. since the days of asepsis. Powers, of New York, gives a table of 31 excisions and 7 deaths, or a mortality of 22 $^{58}/_{100}$ per. cent. Robson reports 20 excisions with only 4 deaths in his experience, so at the present time it is not only more scientific and rational to open the sac of spina bifida, replace the contents in their natural spinal canal, cutting away the surplus, and by careful suturing and compress retaining them there than it is to use the injection method; but the percentage of of cures is also greater.

As to the ages of the patients undergoing the operation for this deformity they differ widely. Walther operated successfully upon a case only 4 hours old, while Ricord cured a young woman of severe nervous symptoms by operating upon her spina bifida when she was 25 years of age.

The foregoing facts ought to teach us several things:

First—Not all cases of spina bifida require either injections or other operative treatment. If the protrusion is small and the skin over it is not too thin, it may be crowded into its bony canal and held there by a firm compress. This, or just as much compression as it will bear, should be applied carefully when first discovered by the physician in charge. A gutta percha, celluloid or pasteboard shield held in place with adhesive straps and bandage is perhaps the most efficient and simple means of accomplishing the desired result.

Second—The very large majority of cases demand some radical treatment, and the percentage of cures in skillful hands will not fall below 70 or 80 per cent.

Third—The operation of excision is both more scientific and successful than the injection method.

Fourth—When operation is needed no child is too young for a successful operation.

Fifth—When paralytic or other nervous symptoms arise from spina bifida, no matter how old the patient, benefit may accrue from a skillful operation.

TYPHOID FEVER IN VERY YOUNG CHILDREN—THREE CASES WITH UNUSUAL COMPLICATIONS.

E. B. MONTGOMERY, M.D., Quincy, Ill. (*St. Louis Medical Gazette*, 1899, iii, 248) after an extensive review of the literature pertaining to typhoid fever as occurring in infancy and childhood, including a mention of Dr. Stowell's tabulation of 85 cases under 3 years of age, proceeds to detail three cases, two of which happened in his own practice. In the first, an infant of 9 months, the meningeal symptoms were so marked as, for the time, to make a diagnosis of tubercular meningitis highly probable. These symptoms began to subside about the twenty-third day of the fever, and convalescence was fairly established by the thirty-fith day.

The second patient, a little girl of 3½ years, suffered from the development of double suppurative parotitis about the twenty-fifth day of the fever, and aphasia from an early period. The fever persisted for some time after the evacuation and drainage of both abscesses, but convalescence was finally fairly established about the forty-fourth day from the onset of the illness. The literature pertaining to meningitis and parotitis as complications of typhoid fever is considered and many statistics showing their comparative infrequency given.

The third case, an unreported case of Dr. C. W. Rook, of Quincy, Ill., occurred in a boy of 3 years, and was unusual in the development of swelling of the submaxillary gland on one side on the seventeenth day of the fever. Later this suppurated, and the pus was evacuated, and one week following a parotid abscess formed, resulting in death of the patient on the thirty-third day of the illness. The author in an extensive search of the literature pertaining to typhoid fever, its complications and sequels, was unable to find but three other cases detailed in which the submaxillaries became involved in the course of the disease.

HEMORRHAGE IN NEW-BORN.

J. G. KINNEMAN, M.D., Goodland, Ind., (*Indiana Medical Journal*, Nov., 1899), writes as follows:

In consideration of the rather rare occurrence of this accident, its questioned pathology, and the effort being made at present to determine its cause, I regard it proper to make the following report:

On the morning of September 7th, 1899, Mrs. O. gave birth to a male child, weight about four pounds, presenting no appearance of imperfect development, after a normal labor. The health of both mother and father has always been good. No history in either case of tuberculosis, syphilis or hemorrhagic diathesis. The child presented no symptoms of icterus, was strong, and readily responded to its new environment. The placenta was small, and the funis fragile and diminutive in size.

After the completion of labor, the child was brought for further inspection, when I noted quite a hemorrhage issuing from the cord and about the umbilicus. I at once tied the cord again, and further treated the case by applying firmly a compress, moistened with Monsel's solution, ordering quiet, warmth and nourishment. I returned in five hours, and found no further hemorrhage on the surface, but in twelve hours from birth the first discharge from the bowel contained some blood, neither clotted nor fresh, but seemingly well mixed with the meconium. Thirty-six hours after birth the child expired.

In a subsequent conference with the parents I learned that this was the sixth child lost by them, and that all were males, all but one dying a few hours after birth, the one living about six months. The cause of death was unknown to them, except that in the case of the fifth, the hemorrhages were present, as in the sixth. They have two daughters living, aged three and thirteen years, both healthy from birth. The mother has two sisters, who have given birth each to two male children, all dying in a short time (a few hours to a few days), and to female children one each, who are living and healthy.

The mother's mother gave birth to two male children who died of of hemorrhages within a few hours. This completes any history that seems in any way to relate to this case. No tuberculosis, syphilis, hemophilia, rheumatism of chronic character, or other disease producing a cachexia or dyscrasia.

I find, in looking over a limited portion of the literature of this accident, many cases reported, but little on its pathology or etiology. Holt, in his recent text-book on "Infancy and Childhood," intimates no cause other than fragilty of vessels and change in circulation and blood after birth. He, with others, mentions the coincidence of syphilis in 2.5 to 14 per cent. of the reported cases. Sepsis has received its share of blame, but nothing definite has been offered. Gärtner has isolated a bacillus in two cases, and made an attempt to demonstrate it as a causative factor, but so far has reached no satisfactory conclusions. Dyscrasia and hereditary taint are offered as causes by J. Lewis Smith, since a majority of cases have been seen in foundling and other hospitals, where evidences of hereditary taint are most likely to be seen. All, I believe, agree that it most frequently occurs in males, not in that extreme ratio as does hemophilia (13-1), but markedly so.

Dr. Francis Minot makes a report of 42 cases in 1852, with a mortality of 84.8 per cent. A collection of 220 cases, by Dr. Ludwig Grandidier, in 1871, shows a mortality of 83 per cent. Of the 109 cases by Townsend, 79 per cent. died. The prognosis is unfavorable, until the falling of the cord, at which time, if no further hemorrhage ensues, the child seems to have equal chances with others of its age.

Nothing is offered in the way of treatment new to that of forty years ago. Compresses, local styptics, etc., with quiet, warmth and nourishment. The application of such treatment as is used in ventral hernia (pins and figure 8 suture) has been advocated, but with the closing of the umbilical bleeding usually come hemorrhages upon the surface at other points, or within the intestines, or stomach, or from the kidneys.

CRANIECTOMY FOR MICROCEPHALIC IDIOCY.

W. J. Wilson, M.D. (*Canadian Journal of Medicine and Surgery*, 1899, vi,, 425), in a brief article on Craniectomy for Microcephalic Idiocy says there are so many conditions which, in microcephalus with idiocy, may be present either as a cause or simply in association—conditions which during life it may be impossible to diagnose—that the question whether we should operate in any given case becomes a matter of very serious consideration. There can be no doubt that premature ossification does take place, that fontanelles may be closed and the sutures ossified at birth, but whether this is a cause of the microcephaly, as was thought to be the case by Lannelongue, or a result of arrest of brain development is still a debatable question. When gross cerebral lesions, such as extensive sclerosis exist, the chances for improvement cannot be good. Operations on the skull for microcephalic idiocy will not take a permanent place in our treatment until a large number of cases have been observed, and we are able to have judged better just what conditions may or may not be improved by operation. It is with this object in view that the following case is presented: Henry R., aged five years. Family history good. No idiocy, deformities or insanity in the family of either parent. No history of tuberculosis or syphilis. One sister died from laryngeal diphtheria. Has two healthy brothers. There is a difference in the age between Henry and the next elder child of fourteen years. During these fourteen years there were no miscarriages. One since. Parents both healthy and strong; grand-parents on both sides lived between seventy and eighty years. Other members of the family have average-size square heads. Mother had no frights and no thoughts of trouble during gestation. At birth baby weighed seven pounds, was plump and fat, but his head was very small. His mother noticed there were no openings in his head.

Dr. Webster, who saw the child when six months old, says at that time there was no trace of fontanelles. He was a small feeder, Was nursed on breast for fifteen months but did not thrive well. At sixteen months he weighed fifteen pounds, was apparently healthy, but did not grow like other children. He was three years old before he could stand alone. His ankles were weak and turned in. Sight and hearing normal so far as known. In walking he bent forward almost to a right angle. He was restless and cried a great deal, was a bad sleeper, waking frequently during the night. When four years old began taking thyroid tablets. He began with one five-grain tablet per day, and by the end of nine months was taking four tablets or twenty grains of P. D. & Co.'s thyroid extract per day.

During this time his legs improved very much in strength and became straighter at the ankles, but body remained bent over in walking. Five months ago he was admitted under the author's care at the Western

Hospital. At this time he could only say one word—mamma—and this he used for every person. He would not play with his toys, was very restless and rubbed his head a great deal. He was then five years old, and it was noticed he was cutting his lower central incisor teeth. His first dentition began at the fifth month. His disposition was affectionate, but at times he became vicious towards other children. The cranial measurements, after hair was removed, were: Circumference at tip of ears, 14¼ inches; over vertex from meatus to meatus, 9¼ inches; diagonally over frontal bone from meatus to meatus, 8¾ inches; diagonally over occiput from meatus to meatus, 9 inchcs. Earlv in April an incision was made on one side of the sagittal suture and about one inch from it. At the first incision a piece of bone one by two inches was removed. This was followed by very little shock, and in about three weeks a similar incision was made on the other side of the head. These two incisions were extended to about four inches by one inch on either side of the sagittal suture, and at periods of two or three weeks apart, making in all four operations.

The skull was first opened with a trephine, and the opening then extended by the aid of punch forceps. The periosteum was pushed to one side, but not removed, and the dura mater was not opened. There was some bulging of the dura at each operation. The skull was not thick, but so dense it took a very hard pressure of the forceps to cut it through. There was not much hemorrhage, but it was remarked there was an increased amount at each operation. The bone lifted easily from the dura except during the last operation which was on the posterior part of right incision, and here it was attached more firmly. No other conditions were noted. Shock was very slight after operation, and next morning he wanted to sit up in bed as usual. Some improvement was made from the first. He became easier to manage, and played more with his toys. He has learned a great many words and short sentences, and is learning more daily. His disposition is milder, he sleeps all night through, and has quit, for the most part, movements of his hands, which before operation were very marked. While he does not always stand erect or walk without some bend forward, his gait is vastly improved and he stands erect most of the time. He has has had no special training since operation other than by his mother, so that training does not account for his improvement. Henry has always been quite musical and picks up tunes readily. He did this before operation.

When he came into hospital his circulation was bad, his hands cold, blue and damp. This was attributed to the use of the thyroid, and after it was discontinued his circulation improved.

The conditions in this case which decided for operation were (1) early ossification of sutures and fontanelles and early dentition; (2) absence in so far as could be discovered of gross brain lesions.

NOTIFICATION OF OPHTHALMIA NEONATORUM.

F. Antill Pockley, M.D., (*Australasian Med. Gazette*, 1899, xvii, 372.) says: There being no apparent likelihood of the practice of midwives being regulated, it occurred to me that the difficulty receiving three injections a day for first nine days (a syringefull of a 2 per cent, solution each time). The urine began to look smoky, and only two injections were given daily for next two weeks. The only other medication used was small doses of eserine with each injection given during the last two weeks. The result was extremely satisfactory, the boy making a perfect recovery.

A PECULIAR MONSTROSITY.

R. H. Garthright, M.D., Vinton, Va. (*Med. Register*, September, 1899) reports: On the 7th of July I received a message to call on Mrs. N. who was parturient. When I reached her she was having active labor pains, and the os uteri was thoroughly dilated. Shortly after my arrival the pains ceased and did not return until I had ruptured the bag of waters. Immediately following the rupture of the membranes a very large quantity of water ran away, an hydramnios existing. In a short while I delivered, by the breech, a male infant weighing six pounds. It gasped a few times and died. The child was well developed, except as described below. The os frontis extended almost to the superior lip. The spaces where the eyes should have been were as firm and smooth as the centre of the forehead. About half an inch above the mouth there was a short slit which on being extended showed an imperfectly developed eye. The mouth was very small and resembled that of a rat. Inside the oval cavity were a number of small soft teeth.

PEDIATRICS

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ORIGINAL ARTICLES

THE ESTIMATION OF THE LEUCOCYTES OF THE BLOOD AS AN AID IN THE DIAGNOSIS OF DISEASES OF CHILDREN.

By GEORGE D. HEAD, M.D.,
Minneapolis, Minn.

A STUDY of the blood of adults suffering with disease has revealed the fact that in certain pathological conditions the leucocytes are much increased beyond the normal limits, and in other conditions diminished, while in a third class the count is normal. So constant and characteristic have these counts been found to be, that the estimation of the number of white cells in the circulating blood has become a valuable procedure in assisting to determine the disease with which the diagnostician is dealing, and as a means of differentiating between it and other simulating pathological conditions. By a count of the leucocytes of the blood, the clinician possesses a new objective symptom, which materially assists in establishing the identity of the disease. To a much more limited degree this procedure has been utilized in the diagnosis of diseases of children. But the difficulty in securing the blood from such young patients, and the suspicion that knowledge so secured might be unreliable and lead to false conclusions, owing to the variability of the white count in the early years of life, has served to prevent the use of this procedure to any marked degree in the clinical diagnosis of this class of diseases.

The experience of the writer with the use of the white blood count in such patients does not bear out the general impresion that the procedure is unreliable. On the other hand he is convinced that in general the leucocyte counts in the blood of children affected with certain diseases are as characteristic and fixed as in diseases of adult life; and that if the clinician is familiar with the facts and is careful to eliminate errors, as definite conclusions can be drawn from these counts as in the diagnosis of the diseases of adult life.

With a view to directing attention to this procedure as an aid in the diagnosis of children's diseases, this paper has been written.

Leucocytes are present in the circulating blood of children in greater numbers than in the blood of adults. The blood of an infant at birth will count from 17,000 to 21,000 white cells to the c.mm. That of a baby of six months, 12,000; a child of one year, 10,000; one of four years, 9,000; while from six years onward the leucocyte count is practically that of adult life, namely, 7,500 white cells to the c.mm. The increase of the white cells in infancy and early childhood is explained by one authority on the ground of a greater concentration of the blood, coupled with a large digestive leucocytosis.

Whether this is the true explanation has not so far been absolutely determined. It is certain, however, that this increase of the white cells in late embryonic life and in infancy over the number present in the blood of adults led to the assumption that the white cells of the blood were the progenitors of the red corpuscles; an erroneous theory, without any well-founded proof, which is taught by a few even to the present day, and still holds a place in some of our modern text-books.

As in adult life, the number of white blood cells may be increased or decreased beyond the normal limits, so in children certain physiological and pathological forces may augment or diminish the number of leucocytes circulating in the blood. There is, however, this difference to be noted: The changes in the number of leucocytes so produced are much more pronounced in children, and seem to be occasioned by causes more trivial in their nature. Take, for example, the leucocytosis of digestion. In the adult the white blood count is rarely increased more than 2–3,000 white cells following a meal, while in children and young infants a digestion-leucocytosis of five thousand is not unusual.

In diseased conditions as well the number of leucocytes in the circulating blood of children shows more pronounced changes than in the blood of adults. In the disease typhoid fever this is well exemplified. Here the diminution in the number of white cells is more marked and more invariable than the leucopenia of typhoid fever in adults. What forces act to bring about this increase or diminution in the white cells of the blood is not apparent, nor is it at all certain that the same force acts in all cases to produce the leucocyte change.

Virchow and Ehrlich explain leucocytosis on the supposition that a stimulation of the blood-making organs takes place which occasions an over-production of white cells. Löwit holds to the view that there is a regeneration of new cells from the older forms. Buchner and Romer describe the process as two-fold,—first, a stimulation of the blood-making organs to a production of new cells, and second, the action of bacterial proteins circulating in the blood, calling out other leucocytes from the spleen and lymph nodes into the general circulation. Goldschneider, von Limbeck and Jakob hold to the view that there is no actual manufacture of new white cells in the phenomenon of leucocytosis, but that the whole process is one of chemiotaxis. That is, the white cells lying in the spleen, lymph nodes and lymph spaces are attracted into the circulation through the influence of the bacterial toxins carried in the blood, and these leucocytes, added to those already in the blood stream, cause the higher white blood count and the phenomenon known as leucocytosis.

To explain the diminution in the number of leucocytes in the blood, two theories have recognition: One, that of Löwit, conceiving the process to be essentially a cell destruction; the other, that of Schultz, Goldschneider and Jakob, who hold that there is no actual destruction of white cells, but that the decrease is caused by an exodus of leucocytes from the circulating blood into some of the organs and tissues of the body. But in whatever way we explain these phenomena, we know that they exist, and that under certain conditions the white cells of the blood may be increased or decreased beyond the normal limits. Some of these conditions are physiological, such as leucocytoses of digestion, cold baths, exercise, and the like; others are pathological, such as the leucocytoses of pneumonia, rheumatism, the septic processes, or the leucopenia of tuberculosis, typhoid fever and la grippe. The physiological leucocytoses are of importance in clinical medicine, because the clinician in making white counts and drawing conclusions therefrom should be careful to exclude increased white counts from such causes. It is, however, in the pathological conditions causing increased white blood counts that our interest centers, and to these your attention is directed.

Before proceeding to detail cases illustrative of the value of the procedure, let us review the facts known concerning leucocyte counts in diseases of children. Of course, it must be borne in mind that this subject has not been as thoroughly investigated in children as in adults. The number of cases in which counts have been made is not nearly so large, and the leucocyte counts for each disease are not as definitely fixed. Still enough has been done to warrant some definite statements from which some general conclusions can be drawn.

The presence of a pyemic infection in the body is usually followed by a well marked leucocytosis. This holds true whether the point of infection be a furuncle on the neck, the chamber of the middle ear, or the abdominal cavity about a diseased appendix. The leucocytosis thus produced is well marked, rarely falls below 20,000 white corpuscles to the c.mm., and is constant enough to be of great diagnostic value when the question of septic infection arises. Rare exceptions are met with where the pyemic process is of long standing, and the pus well walled off from surrounding structures, or where the inflammation is most violent and speedily ends in death. The former condition is seldom met with in children. In the latter condition the white count is of value in prognosis when the diagnosis is known. Take, for example, otitis media. The physician is often in doubt as to whether the inflammation in the middle ear has gone on to suppuration or is only catarrhal in character. If the process be catarrhal a leucocytosis rarely exists; if pus has formed the leucocyte counts will reach 20,000 to 30,000 white cells to the c.mm.

See case I, as illustrative of the value of a leucocyte count in establishing aright the pathological condition in otitis media.

In appendicitis the leucocyte count is slightly increased if the process is catarrhal, but if the inflammation has gone on to suppuration and pus has formed a well marked increase of the white cells will be encountered. This knowledge is of value in determining whether pus is or is not present in an inflammation of the appendix. Also by repeated counts the clinician is able to follow the course of the inflammation from day to day, and to determine whether the process is spreading and involving new areas, or whether the cell forces have gained the mastery and the inflammation has become localized. Thus, for example, in case V the white count on the first day was 19,000, the second day 22,000, the third day 19,000, the fourth day 14,000, all without any marked change in the symptoms, and yet operation in this case was deferred because of the diminishing leucocytosis. The boy recovered.

A leucocyte count in appendicitis is likewise of value in the differential diagnosis between it and other stimulating affections, such as typhoid fever or acute obstruction.

In Case II the question arose: Is this a case of typhoid fever or appendicitis? The white blood count favored the former disease; the surgeons diagnosed appendicitis. The case came to operation; a very slightly inflamed appendix was removed; the patient continued in a course of fever with rose spots, enlarged spleen and Widal reaction, lasting three weeks, and it was probably typhoid fever.

In acute intestinal obstruction in the early stages the leucocyte count is rarely increased beyond the normal limits. In the differential diagnosis between acute intestinal obstruction and appendicitis the white count would consequently be of value, since in appendicitis we have a leucocytosis, while in acute obstruction no leucocytosis usually exists.

In Case XIII the question arose: Has the patient acute obstruction or appendicitis? The leucocyte count was 20,000 white cells to the c. mm. A diagnosis of appendicitis with pus formation was consequently made. The patient came to operation, and a necrotic appendix with general suppurative peritonitis, was encountered. It must here be noted that some cases of general suppurative peritonitis, which end fatally, exhibit no leucocytosis. Cabot reports five such cases in his series.

In the diagnosis of typhoid fever in children, a leucocyte count is of great value. The disease is so atypical in its onset many of the cases are not seen until the child has been sick for five or six days, the symptoms are so notoriously uncertain that the diagnostician is often in doubt until the disease is well advanced or the post-mortem reveals the true lesion. In the first week of typhoid fever the leucocyte count is normal or below normal, in the second week it is almost always below normal, as is likewise the case in the third and often the fourth weeks.

In the differential diagnosis between typhoid fever and la grippe this fact is of no value since both diseases have a similar white blood count, but in the diagnosis between typhoid fever and appendicitis, or typhoid fever and osteomyelitis, or typhoid fever and enterocolitis, and the infectious diarrheas, or typhoid fever and pyemia or septicemia, this leucocyte count would be almost of diagnostic value.

If in a case of protracted fever of doubtful diagnosis in a child, the writer should be asked to take his choice between making a leucocyte count and the Widal reaction, he would unhesitatingly choose the former. The Widal reaction tells me whether the case is or is not typhoid fever. If it is not typhoid fever this test leaves the clinician entirely in the dark as to what it may be. The leucocyte count does not give information which enables one to say absolutely that the case is typhoid fever, but it does help the diagnostician to say with some certainty whether the case is appendicitis or typhoid fever, whether it is pyemia or typhoid fever, whether it is meningitis or typhoid fever, whether it is osteomyelitis or typhoid fever, whether it is infectious diarrhea or typhoid fever, since all these conditions usually exhibit leucocytosis while typhoid fever does not. But I am glad to say we are not compelled to make a choice. We have both the Widal reaction and the leucocyte count, as aids in the interpretatian of obscure pathological conditions.

In lobar pneumonia a leucocyte count is of assistance in diagnosis. Lobar pneumonia is a disease generally characterized by a very large leucocytosis. Only the cases of the very mildest infection, or some of those which terminate in death, exhibit no increased white count. In children the early diagnosis of pneumonia is not always easy. In the first place the initial symptoms are many times atypical, the complaint of the child may be of pain in the abdomen rather than in the chest, there may be little or no cough, and little or no expectoration. It is in these cases that a small area in the base of one lung may be entirely overlooked and the attention of the clinician directed to some other organ of the body. Under such conditions a leucocyte count in a child with high fever is always suggestive of pneumonia. Also in grave cases of the disease a leucocyte count gives some indication as to the outcome. Grave pneumonias without leucocytosis almost invariably die.

Tuberculosis in most of its forms is unattended with an increased leucocyte count. Pulmonary tuberculosis is an exception to this rule, and usually exhibits a leucocytosis, except in its initial stages, probably because there is already a mixed infection when the case comes under the care of the clinician. As a means of differentiating between tubercular and septic peritonitis the white count is of value, as also between tubercular and septic meningitis. There are, however, some observers who dispute the latter statement.

In meningitis other than the tubercular form, a leucocytosis usually exists. In Cabot's series of cases, two were in children and both gave a leucocyte count of over 14,000 corpuscles to the c.mm. In the differential diagnosis between meningitis and typhoid fever with meningeal symptoms, the white count is of great value.

In osteomyelitis in children a leucocytosis usually exists. The writer has notes of a case in a girl of five years, where for some days doubt existed as to whether the case was osteomyelitis or typhoid fever. A white blood count would have removed the doubt and guided the diagnostician to a right conclusion.

Of the acute exanthemata, measles has no leucocytosis, while scarlet fever exhibits a count of from 17–30,000 white cells to the c.mm. Of the other diseases met with in children, diphtheria, tonsillitis, and acute articular rheumatism cause an increase in the number of leucocytes in the blood, while la grippe presents a normal or diminished leucocyte count.

Of course, it must be borne in mind that this procedure as an aid in the diagnosis of diseases of children is only in its infancy. The statistics are meagre, the series of cases examined are not as large as they ought to be. Many of the statements here made may be subjected to change before the whole truth is known. Yet enough has been done by competent observers to at least warrant the conclusions which have been stated.

Having these facts in mind, your attention is called to the list of cases about to be reported, but before so doing just a word as to the technic. The red blood mixer of a Thoma Zeiss hemocytometer and a bottle of one-third per cent. glacial acetic acid solution in water are constantly carried in the medical hand-satchel. When a patient is seen in whom a count is desired to be made, the lobe of the ear is punctured, the mixer is filled with the proper amount of blood and acetic acid solution, the whole shaken up and the apparatus taken to the office. At the office, with the aid of the proper slide and the microscope, the count is made. This method does away with the necessity of carrying a microscope to the place where the patient lives, and is accurate, provided the mixer is well shaken previous to making the count. The writer has found no loss of cells as a result of one or two hours' delay before making the count, and he believes that no error arises, even though the estimation be not made at once.

Case I.—Clarence B., boy, 10 years. Had measles one week ago. After the rash disappeared, the child maintained a temperature which could not be accounted for. No lung, heart or kidney involvements. One day later the boy complained of pain in the left ear. White count 25,000 leucocytes to the c.mm. Diagnosis, with the aid of blood count, otitis media, with pus formation. Later pus discharged from ear.

Case II.—Miss F., seen with Dr. Hunter, aged 15 years. History of five days' pain in the right lower abdomen, with vomiting, constipation and fever (103°). Physical examination: Abdomen distended; tenderness and marked resistance in the right lower abdomen. Clinical diagnosis: Appendicitis with forming abscess or necrosis. White blood count, 3,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count: A non-suppurative lesion in the abdomen, probably typhoid fever. Surgeon operates; no pus; a normal or slightly inflamed appendix, which was removed. Patient continued in a course of fever, which lasted three weeks, and was characterized by rose spots, enlarged spleen and Widal reaction. While there is a possibility that this patient was suffering from a mild catarrhal appendicitis, coupled with typhoid fever, the probability is that the disease was from the outset a case of typhoid fever simulating appendicitis.

Case III.—R., boy, 16 years of age. History of abdominal pain and fever lasting over some weeks. Physical examination: a large fluctuating tumor in right abdomen. Clinical diagnosis: appendicitis with abscess. White blood count, 16,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count, confirms the clinical diagnosis. Surgeon operates. A large amount of pus evacuated. Necrotic appendix.

Case IV.—Lon B., boy, 12 years. Seized with intense pain in the right lower abdomen, accompanied with vomiting, constipation and fever (103°). Physical examination: Marked tenderness over McBurney's point. Urine normal. Clinical diagnosis: Appendicitis. White blood count, 7,000 corpuscles to the c.mm. Diagnosis, with the aid of the white count, catarrhal appendicitis; no pus. Case not operated upon. Recovery in four days.

Case V.—C., boy, 11 years. Seized with persistent pain in the lower abdomen, constipation, vomiting, tympanites and some fever (99.6°). Urine normal. Physical examination: Tenderness over the lower abdomen; most marked on the left side. No palpable tumor. Clinical diagnosis: Appendicitis, typhoid fever or (?). White blood count, 19,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count, excludes typhoid fever, and points to a suppurative lesion in the abdomen. Operation advised. Parents refuse. Next day white count, 22,000; no change in symptoms. Next day white count, 14,000. Boy better. Inflammation receding. Will not operate. Patient recovered. In this case the leucocyte count gave a means of following the course of the inflammation which could not have been secured by a study of the clinical symptoms.

Case VI.—Oswald B., boy, 16 years. Complains of headache, fever (102°) and diarrhea, lasting over three days. Physical examination: Tympanites over abdomen. No spots or enlarged spleen. Diagnosis: Typhoid fever or infectious diarrhea. White blood count, 7,600 leucocytes to the c.mm. Since infectious diarrhea is usually accompanied by leucocytosis, the white count points toward typhoid fever. Two days later, white count, 6,300 leucocytes to the the c.mm. The case finally developed rose spots, enlarged spleen, gave the Widal reaction, and ran a typical typhoid fever course.

Case VII.—John N., 6 years. Been sick six days. Fever, loss of appetite, cough and constipation. No nose bleed. Lungs, heart, abdomen and kidneys normal. Diagnosis (?). White blood count, 3,300 leucocytes to the c.mm. Diagnosis, with the aid of the blood count, probably typhoid fever. The case later developed rose spots, a palpable spleen, gave a Widal reaction, and the fever ran a typical typhoid course.

Case VIII.—Van D., child, 4 years. Seen in consultation. Child has been sick four days. Fever (102.5°), coated tongue, extreme restlessness, some cough and pronounced tympanites. Physical examination: Heart, abdomen and kidneys normal. Crepitant râles and tubular breathing over the right lung posteriorly. Clinical diagnosis: Lobar pneumonia. White blood count, 30,000 leucocytes to the c.mm. Diagnosis, with the aid of white count, confirms the clinical diagnosis. The case developed a frank lobar pneumonia, and recovered by crisis.

Case IX.—Kr., child, age 2 years. History of fever, loss of appetite, coated tongue, and constipation, lasting one week. Has been about the house, but seemed sick. Attack began after drinking wine at Christmas time. Physical examination: No rose spots; spleen not palpable; temperature 101°; heart, lungs, and kidneys normal; abdomen somewhat distended. Clinical diagnosis: Typhoid fever or (?). White blood count, 6,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count: typhoid fever. The case continued in an irregular course of fever, gave the Widal reaction, and was undoubtedly typhoid fever.

In these atypical cases of typhoid fever, where the symptoms are not characteristic, the white blood count as well as the Widal reaction assists in making the diagnosis.

Case X.—Kr., child, five years; same family as above case. History of beginning of attack same as previous child. Diagnosis: Typhoid fever or (?). White blood count, 5,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count, typhoid fever. This case later developed a typical typhoid fever, with Widal reaction.

Case XI.—John A., boy, 7 years. Complained of pain in stomach, with loss of appetite, vomiting, diarrhea, and cough. Physical examination: Temperature 105°; lungs, heart, and abdomen negative; albumin in urine; no casts. Diagnosis (?).

White blood count, 23,000 leucocytes to the c.mm. White count excludes typhoid fever and la grippe, and points to some disease with a marked leucocytosis, possibly pneumonia. Next day, condition same, but on careful examination an area the size of an orange was found in the base of the right lung posteriorly, which was dull on percussion and exhibited tubular breathing. Diagnosis: Lobar pneumonia. One day later the whole lower lobe of right lung was completely involved. In this case the white blood count gave a clue as to where the infection might be located, and thus assisted the clinician in making an early diagnosis.

Case XII.—Gladys B., girl, 6 years. Five days ago caught cold. Later complained of headache, nose-bleed, constipation, fever, and great prostration. Temperature 104°. Pulse 120. Physical examination negative. Diagnosis: Typhoid fever, la grippe, or (?). White blood count, 7,000 leucocytes to the c.mm. As both la grippe and typhoid fever have a normal or diminished white count this procedure will not assist in differentiating between the two conditions. The case continued with fever for four days, and recovered. No Widal reaction. Diagnosis la grippe.

Case XIII.—Mr. R.; young man; seen with Dr. Hunter; seized with pain in the abdomen while doing gymnastic exercises. Persistent vomiting, marked tympanites, obstipation, and mild fever. Clinical diagnosis: Intestinal obstruction or appendicitis. White blood count, 20,000 leucocytes to the c.mm. Diagnosis, with the aid of white count, appendicitis with pus in the abdomen. Operation. Gangrenous appendix, general suppurative peritonitis.

Case XIV.—Willie P.; boy; 8 years. History of persistent cough, with loss of appetite, fever, and at one time expectoration of blood. Physical examination: Temperature 101°, pulse 90; dullness in the base of right lung posteriorly; tubular breathing in same area; all other findings negative. Clinical diagnosis: Lobar pneumonia or acute pulmonary tuberculosis. White blood count, 27,000 leucocytes to the c.mm. Diagnosis, with the aid of the white count, lobar pneumonia. Later lung clears. No bacilli in sputum. Boy recovers.

Case XV.—Willie W.; boy; 12 years; well till three weeks ago, when he fell on a stone sidewalk, striking his head. Came home in a dazed condition. Complained of headache more or less ever since. When seen, boy is dull and drowsy, has vomited once or twice. Temperature 104°, pulse 106, full and bounding; no diarrhea, no nose-bleed; sleeps poorly and talks in his sleep. Lungs, heart, abdomen, and kidneys normal. Diagnosis: meningitis, typhoid fever, or (?). White blood count, 8,000 white cells to the c.mm. Diagnosis, with the aid of white cells, excludes meningitis and points towards typhoid fever or some other disease without leucocytosis. Boy later developed typical typhoid fever with rose spots, tympanites, diarrhea and Widal reaction.

REPORT ON THE CAUSE AND PREVENTION OF INFANT MORTALITY.*

BY ERNST WENDE, M.D.,
Health Commissioner, Buffalo, N.Y.

WERE an apology necessary for limiting our inquiry to the supervision and protection exercised by Municipal and State authorities over the dairy interests and milk business, sufficient excuse would be found in the mortality tables of the various health departments of cities, showing clearly that early infant mortality depends largely upon milk as a doubtful commodity. The importance of this subject is much greater than is commonly realized, for the mortality rate of every municipality is dependent upon the ratio of its infant mortality. Recently this fact has been more than emphasized, in that tables show encouragement in an unusual decrease in the death-rates of several large cities.

The nursing period is the most critical time in the life of an infant, and that passed, its chances for further existence are extremely favorable.

Yet milk is reputed to be a perfect and complete food. Nature has provided it for the young of the mammalia, and her choice might be trusted were it not for the unsanitary and inhuman conditions which too frequently prevail at the dairy of the producer, at the milk-house of the dealer, and at the home of the consumer.

Too frequently, to impute the misfortunes to the agency of others, these centers of infection are carelessly sought for and overlooked by the political and incompetent health official.

Too frequently, the greedy and dishonest vendor, adds a preservative or employs a disinfectant which acts as an irritant or poison to the milk-bibbing economy of the baby.

Again, too frequently, before reaching the nursery it becomes mixed drink or an unsafe beverage of bacteria. The more the milk, and the less the bacteria, the smaller the injury; the more the bacteria and the less the milk, the greater the injury inflicted. " Sin is a reproach to any people," say the scriptures; so is disease and death of the helpless, due to an unwholesome milk supply.

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* Read before the American Public Health Association, Nov. 1st 1899.

To ascertain the significance attached to this serious and momentous theme, and, moreover, with a desire to become better acquainted with the important details which govern the milk traffic existing in other cities, a circular letter, of which the subjoined is a copy, was caused to be mailed to the health authorities representing the one hundred largest cities in the United States.

" Dear Sir:—

As Chairman of the " American Public Health Association Committee on the Cause and Prevention of Infantile Mortality," and for the purpose of obtaining data and other information pertinent to its functions, I have the honor to ask:

What supervision and protection are exercised by Municipal and State authorities over the dairy interests and milk business in your city, and what is its scope ?"

ERNEST WENDE, Chairman.

To this inquiry, 49 replies were received, which ran the gamut. Nine exercised no municipal control, five possessed a partial jurisdiction, while the remainder varied from an inefficient administration to the severest restrictions and regulations; therefore, as a result of this interpellation, your Committee on the Cause and Prevention of Infantile Mortality begs to submit the following report:

Infantile Mortality.—While milk is the food of the nursery *par excellence*, and constitutes a large portion of the dietary of young children and those of feeble digestion, it is likewise a recognized fact that, like no other article of food, it enjoys the heinous tendency of becoming unclean, infected, and dangerous, a defilement which occurs most speedily. There was no difference of opinion concerning this proverbial conclusion, and in the larger municipalities especially, most stringent and comprehensive measures are annually adopted, with a view of abolishing many of the conditions under which diseases had previously flourished attributable to this source.

All of our correspondents who touch upon the proposition agreed that the mortality of infants under five years of age, and principally of those under one year, is being gradually reduced in proportion as the quality of the milk improves.

Alterations in quantity and quality were reviewed by several from a practical aspect, and naturally the conditions which entered were many, some of them controllable, others not.

Those which may be regulated are production, storage, transportation and delivery, while those beyond control are mainly the vicissitudes of the seasons, and, frequently, a need of proper jurisdiction over outlying districts.

In Buffalo, a rigid supervision over the milk supply, for the past six years, has reduced the infantile mortality to such an extent during the nursing period as to be marvelous in comparison with previous rates.

[In order that one might fully appreciate the results, Dr. Wende appended a detailed table of mortality statistics since 1890.]

The greatest diminution in deaths occured in children under five years of age, the largest percentage being in those under one year.

Educating Mothers.—The laws of the State of New York require all births to be reported to the Bureau of Vital Statistics of the Department of Health, which gives an excellent opportunity to impart information to mothers at a time when it is mostly needed. Accordingly, the Buffalo Bureau of Vital Statistics causes a circular of instruction, on the care of infants, to be mailed to each household at the beginning of the heated period. The result is indicated by mortality statistics, as the greatest decrease is noted during the nursing period.

In 1890, out of a total of 5,024 deaths in Buffalo, 2,305 were under five years of age.

The births of Buffalo number above 10,000 annually, yet, in 1898, nothwithstanding this great intermediate addition, there were only 1,570 deaths of children under five years of age, out of a total of 4,533 deaths of all ages. The continuous and marked decrease of infant mortality dates from the time these circulars were first distributed. In cholera infantum alone, the decrease in the death rate of children was over 100 per cent. Among the agents which materially assisted in the reduction was an ordinance prohibiting the sale of long-tubed nursing bottles.

These death-dealing nursery adjuncts have been effectually abolished in Buffalo, but not until after a struggle on the part of the trade.

It is gratifying to note that this, as well as some other Buffalo innovations, has, after comparison and consideration, been adopted by other municipalities and found out to be efficient, simple and comprehensive.

Diseases Conveyed by Milk.—We possess evidence, perfectly understood, gained by experience, bearing potentialities for evil which are unbounded in the dissemination of the virus of tuberculosis, diphtheria, scarlet and typhoid fevers, in the generation of toxic bacterial products giving rise to acute diarrhea, cholera infantum, and tyrotoxicon poisoning and in the production of inanition, malnutrition and marasmus, through the medium of an unwholesome milk supply.

Numerous records of such epidemics are at hand in which the spread of infection was definitely traced to the dairy and its surroundings, contracted from the mouth, nose, throat, skin and discharges of those in charge, and recently convalescent or scarcely recovered.

Thus the *materies morbi*, which is very tenacious of life, clings to the hands and clothes of the careless who, in turn, pollute the water, and then cause it to be lodged into cracks, crevices, seams and inequalities of the walls, floors and surfaces of the unsanitary milk-house, storage-box, cans and bottles, there to thrive and multiply for the transmission of infinite mischief, and the slaughter of the innocent.

Notable among these outbreaks we may mention the 95, described and tabulated by Hart of England, of which 48 were typhoid fever, 32 scarlet fever and 15 diphtheria; and the 90, collected and tabulated by Freeman of this country, of which 53 were typhoid fever, 26 scarlet fever and 11 diphtheria.

To confirm, as well as for the purpose of supplementing, these numerous instances of the spread of infection by an improper milk supply, five outbreaks, parallel in relationship, of which three were typhoid fever and two scarlet fever, that occurred in the City of Buffalo since 1893, may be profitably cited.

It was in the fall of this year that we encountered our first visitation of a contagious disease traceable to and rapidly extending through the instrumentality of a milk dealer's route. Here, likewise, the seeds of infection were brought to the persons unfortunate enough to come in contact with the contaminated milk from a remote center, and at the first opportunity these individuals infected others, and so the evil spread.

It was casually observed that a group of scarlet fever cases prevailed in such association that it was seemingly apparent, according to every reasonable expectation, that they all depended upon a like source of infection. An investigation was at once instituted, which revealed the fact that 57 children of 26 separate and distinct families had succumbed to scarlet fever; all of these had procured their milk from the same milkman, whose milk-house, equipment, help and family were all scrutinized, with the result of finding two cases in his immediate household.

Inasmuch as nothing could be discovered of an unsanitary or causative nature with his own outfit, environment, and mode of handling, the inquiry was further carried back to the source of the milk production—the dairy farm, with the sequence of detecting two cases of scarlet fever, in the desquamating period, occurring respectively in a child aged 7 and in a young man of 19. The latter, who still had large flakes of cuticle pealing from the extremities, must be credited with his share of the misfortune for devastation following the wake of labor. Before being thoroughly restored, ignorant of the danger caused by the particles of shed epidermis, thickly peopled with the infective bacteria or their spores, he did the milking, washed the cans, and transported the commodity to the depot for shipment to be received and distributed to the unsuspicious consumer by the city milk dealer.

Here, then, the first demonstrable milk epidemic of scarlet fever in our midst showed a typical case.

The interesting corollary, deduced from the research, is convincing:

1. That all the facts, brought out to a persistent investigation, pointed to the milk supply.

2. That the cases appeared almost simultaneously, extend-

ing rapidly, and attacking especially those who partook freely of the lacteal fluid.

3. That only the homes located on a certain milk route were invaded, and those frequently having the best hygienic environments.

4. That, happily, the wane of the epidemic was equally abrupt following the discontinuance of the mischievous product.

The Tell-Tale Milk Register.—Briefly, this is the unvarnished tale concerning our first recognized outbreak of scarlet fever, caused by a contagious poison emanating from a doubtful milk supply. However, it shed much light upon the milk-dealer's route as a channel for the dissemination of disease, and served as a stimulus as well to yet more carefully scrutinize and guard the milk traffic. The most important practical result of this inquiry was the devising and maintaining of a register upon these thoroughfares.

It is scarcely an exaggeration to say that the assigning of all acute infectious diseases, that arise in a municipality, to the milkman is an act consistent with the maintenance of health. It means a system, feasible for daily surveillance, and effective in the protection against frequent infection of the milk-consuming denizens. Such a register is worthy of more than a passing notice. It stands as a silent guardian, watchful of the integrity of milk, the health and happiness of the home. No department of health can be considered efficient, much less complete, without it. This plan, when once adopted, will be the last to be dispensed with, for few things accomplish so much that are apparently so simple. Chemical analysis has a place; bacteriological tests another; but the register takes the place of all. It is important and has great possibilities. We may fairly attribute to this innovation the detection of the four subsequent epidemics in their incipiency. It made immediate investigation and the prevention of the further spread possible.

This invention, which had its birth in the Department of Health of Buffalo, immediately furnishes a ready and effectual means for the detection of infection on milk dealers' routes. Appreciating its merits, it is posted daily, and thus the healthfulness of the families, supplied by each individual dealer, is constantly watched. As soon as it appears that on the route of any milk dealer infectious disease exists, an immediate investigation is made into every detail of his businuss, source of supply, and the conditions existing there, when, if justification asserts itself, or even a doubt, his route is suspended, until it can be made absolute that his is not the source of danger.

We cannot be too thankful for this result, and we ought not to neglect its obvious lessons. In city milk routes, much remains to be done, in order to bring the sanitary conditions to a level with our knowledge. We cannot plead ignorance; apathy and indifference are the foes to be most dreaded.

On September 4, 1894, we were assured by the records of the register that nineteen cases of typhoid fever had developed with wonderful rapidity in families served by a milkman living in a sparsely settled section of the northern portion of the city.

The health department forthwith instituted an investigation which showed the startling result that the wife of the milkman, surrounded by unfavorable conditions, was ill with the fever, however, on the borderland of recovery. She was still being nursed and cared for by her husband, who, likewise, was handling the milk, and washed the cans in the most objectionable manner with water procured from an old cistern that had during the preceding year been the subject of several sanitary complaints.

Another powerful factor that made the transmission of the disease through the medium of the milk dangerous was the fact that the patient was not isolated, but cooped up in a small stuffy chamber joining the kitchen in direct communication with the milk room.

It is hardly necessary to state that the sale of milk was interdicted, the cistern ordered abandoned, disinfected and filled, and everything pertaining to the dairy and the premises in general placed in a sanitary condition. By this and other procedures the spread of the disease was checked, no further cases occurring upon the route.

On August 21, 1895, the department again, through the intervention of the register, discovered eighteen cases of typhoid fever intimately associated with the milk route of a dairyman located on the outskirts of the city.

An inquiry into the causes and circumstances of the outbreak revealed that his premises were not what they should be by reason of a defective drainage and a badly constructed, ill-ventilated and unclean milk-house, conditions as might be expected most favorable for the reception and multiplication of the typhoid bacillus.

The peculiar interest connected with these cases was that the wife of an employee had propagated the infection that had contaminated the milk through the agency of her husband, who, at night, not only acted as nurse, but fulfilled all the other necessary household duties, and who, during the day handled and delivered the needed product to the confiding consumers, without changing his clothes for days or taking any precaution whatever.

The sick wife was immediately removed to the hospital and the unsanitary conditions so promptly changed that, by August 30th, just nine days after the discovery of the first, no further cases were reported.

Again, on March 9, 1896, the register indicated the existence of fourteen cases affected with typhoid on the route of a milk-man residing in the western portion of the city.

Here we acquired the information that the milk-room was in the rear of the first floor of the building which he occupied.

Several months previous a case of typhoid developed on the floor above, in a separate family, and ran its full course.

These cases undoubtedly arose in consequence of the unsanitary conditions prevalent in and about the building, and, for the like reason, the contagion remained active until finding expression in the dairyman's route.

A quick subsidence of the epidemic followed on the suppression of the milk, thorough cleansing, and disinfection.

On February 27, 1899, in consequence of the rapid development of scarlet fever—some twenty cases within four days—an investigation was made, and the source of the trouble traced to a dairy farm near Clarence, N.Y , twenty miles from the city from where the milk supply was received.

It was ascertained that at that place four persons were infected with scarlet fever, one of whom, a convalescent, was, through ignorance of the danger and possibility of his acts, engaged in milking the cows, handling the cans and utensils.

Action was taken at once to prevent further injury from the milk, with the result of arresting the further development of cases by March 15th, when but four cases were reported. No further cases were then reported till April 4, 1899, when we received reports of two additional cases, these being the last.

No better illustration could be found to demonstrate the condition liable to develop in any section in the present state of affairs—nor to demonstrate the value of this—the sanitary telltale milk register.

In Buffalo, since these methods have been in vogue, there has been a decided decrease in the mortality ratio of cholera infantum, scarlet fever, diphtheria, and typhoid fever, in spite of her enormous increase in population. The accompanying table is self-explanatory:

Deaths from Diseases which are Frequently Milk-Born.

Year.	Population.	Cholera Infantum.	Scarlet Fever.	Diphtheria.	Typhoid Fever.
1890	260,000	348	21	111	105
1891	255,664	381	67	165	129
1892	285,000	376	84	177	98
1893	300,000	568	133	149	112
1894	315,000	417	85	214	185
1895	335,709	372	22	242	98
1896	350,000	321	14	249	68
1897	360,000	277	21	198	69
1898	370,000	254	13	85	98

(*To be continued*).

TWO CASES OF INFANTILE HEMIPLEGIA FOLLOWING CONVULSIONS IN SCARLET AND MALARIAL FEVER.*

By E. B. Montgomery, M.D.,
Quincy, Ill.

CASE I.—During the prevalence of an epidemic of Scarlatina of severe and fatal type, Charles S., aged 2½ years, on March 23, 1885, with a temperature of 106° F., had most severe and long-continued convulsions controlled after six hours by frequently repeated cooled down baths. The following day a copious characteristic eruption of scarlatina was present and complete right hemiplegia. The fever ran a favorable course, the patient being normal in temperature by the tenth day. The paralysis, however, remained unimproved, there being absolutely no use of the arm, although later the child was able to walk, dragging the right leg. At the end of a year there was present some athetosis and not the slightest sign of returning power in the paralyzed side. By the removal of the family to Alton, Ill., the case passed from my knowledge and observation after fifteen months, but on October 20, 1899, from an aunt of the child residing here I get the following further history: When the child was four years old epilepsy first showed itself, the child having the convulsions about once a week. These have increased in frequency in spite of such treatment as they were able to give it, until now, when the boy is nearly 17 years of age they occur twice a day. The lad is mentally deficient, has never gone to school, and has still complete right-sided paralysis with muscular rigidity and contractures.

Case II.—Timothy R.. aged 18 months, July 20, 1896, with a temperature of 106.5° F. after a malarial chill had severe and lasting convulsions controlled only by chloroform inhalations, while cold bathing was resorted to for reduction of the excessive temperature. The convulsions ceased after two hours and the temperature was normal the following day, but there was present complete paralysis of the right arm and leg and the left side of the face and tongue. This remained unimproved for some weeks when he was able to walk dragging the right leg, but had no use of the right arm. Gradually, some power in the muscles of the upper arm was noticed and this spread by degrees until by the end of a year he made considerable use of the hand. The child is today, after the lapse of over three years from the appearance of the hemiplegia, bright, intelligent and well-grown, and shows not a trace of the palsy which was so long complete. He uses the left hand by preference, having become left-handed through the long period of disuse of the right side; but I can note no difference in the power of

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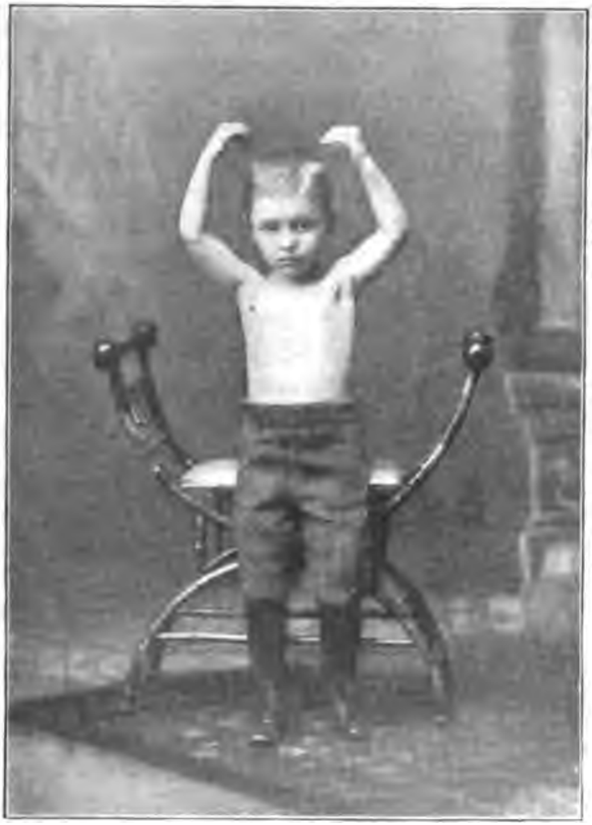
* Read before the Quincy Medical and Library Association, November, 1899.



the grasp of the two hands. He is, if anything, superior in mental and physical development to his twin sister who has never had a serious illness. The accompanying photograph shows the use the patient has of arm and leg and the relative development of the two sides. The treatment used in this case was 10 gr. potassium iodide *per diem* in divided doses, continued for several months.

Two cases of any sort, unaccompanied by autopsies, make a relatively small number upon which to base very positive views as to pathology, prognosis or therapeutics, but these have been enough to make me have some opinions that are not altogether in accord with the prevailing ones to be found on the subject. Thus Hirt says, "A hemiplegia due to cerebral hemorrhage can in most cases be excluded owing to its rarity in in childhood." The two cases just reported, all that have come under my personal care and observation were, in my opinion, both due to this cause. Their origin in acute infectious fevers with temperatures so high as to produce severe and long-continued convulsions, indicate that a rupture of cerebral vessels as a result of the violent spasm was the etiologic factor in both cases. There has come under my observation a cerebral hemorrhage with consequent left hemiplegia in a woman of 35 years, from the uremic convulsions due to a puerperal nephritis, the convulsions first appearing some two weeks after child-birth. On the subject of prognosis the same authority says, "The prognosis is absolutely unfavorable. Complete recovery is impossible, and has never been observed." Church[8] states the same as his experience. Holt[5] and Rotch[6] and Peterson[11] state that complete recovery is rare. In my second case after a lapse of only two and a half years from the complete right hemiplegia, there is absolutely no difference to be discovered between the use of the two sides and there is no difference in the muscular power of the two hands in grasping or of the legs in walking, and the hypoglossal nerve is perfectly restored, the tongue being protruded in exactly the median line. The result achieved here is exactly what we find in adults in whom the amount of cerebral hemorrhage has been small and in whom along with its absorption there comes a restoration of power in the paralyzed side. This I had occasion to observe repeatedly during nearly five years of service as surgeon of the Illinois Soldiers' and Sailors' Home, in which more than 2,000 old, sick and disabled men were under my care.

Jendrassik rather shares my view of the etiology of a large number of these cases and combats the view of their polioencephalitic nature advanced by Strümpell and Hirt. He says "Vascular lesions play as important a part in the acute paralyses of children. as in the apoplexy of the aged." Osler[7] in an analysis of 135 cases, regards hemorrhage as the most frequent cause, Abercrombie and Heubner favor the embolic origin, and Money and Gowers regard Thrombosis as the most frequent vascular lesion. Jendrassik[1] regards the embolic as best supported, not only through the majority of the anatomical findings (embolism of the left art. fossæ Sylvii) but also by the preponderance of right-sided hemiplegias. After scarlet fever Freud and Rie observed 15 right-sided and only 3 left-sided hemiplegias. Donkin[2] thinks that the probable explanation of the cases of hemiplegia which take place during measles, scarlatina, and other acute infectious diseases, is either hemorrhage or thrombosis of the cerebral vessels. He quotes one severe case occurring in his own practice in a child of 15 months, as a result of measles. In this case there was complete recovery after four months. Dr. Abercrombie reports a case of sudden left hemiplegia in a boy of six years in which autopsy revealed thrombosis of the right middle cerebral artery. In the cases due to whoooping-cough hemorrhage from increased vascular pressure has been found to be the cause even though there was no anatomical change in the vessel walls.

Alexieff[3] reports two cases of infantile hemiplegia—the result of scarlatina—one recovering completely. The other died and a necropsy showed a thrombus in the middle left cerebral artery.

Theodor[4] reports two cases, the result of severe paroxysms of coughing during whooping-cough, both of which recovered completely.

Sachs[10] says that the importance of convulsions as an etiological factor in the production of these hemiplegias has given rise to considerable discussion. Freud and Rie[9] do not regard them as causative but as merely denoting the onset of the cerebral process. Sachs and Osler, however, hold that in many cases the palsy is the immediate result of the convulsive seizure. As Sachs remarks, "Anyone who has observed the marked disturbances of the circulation at the acme of convulsions can readily conceive how easily a blood vessel could burst during this period as a result of excessive stasis. This does occur, moreover, not only in children but in adults." Bearing on prognosis Sachs reports a case of a boy of two and a half years, who, after a simple attack of tonsillitis developed right hemiplegia without coma and without convulsions. Within a period of a few weeks the young boy was entirely well and scarcely retained a trace of the apoplectic condition. There was no history of syphilis in the case and the entire development and retrogression of the symptoms reminded one of an adult apoplexy.

Spiller[12] agrees with Freud and Rie and others that convulsions should in general be regarded as the first manifestations of a previous lesion, and not as the cause of the hemiplegia.

In PEDIATRICS for November 1, 1899, Dr. James Priestly reports a case due to cerebral hemorrhage from convulsions in whooping-cough in a child 20 months old, complete recovery taking place after two months.

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[1] Bibliothek der gesammten medicinischen Wissenschaften. Art. "Kinder-laehmungen."

[2] Diseases of Childhood.

[3] Dietsk. Med., No. 5, 1896.

[4] Arch. f. Kinderheilkunde, Band 20, Heft 3 and 4, 1896.

[5] Diseases of Children.

[6] PEDIATRICS.

[7] Practice of Medicine, by Wm. Osler, M.D.

[8] Nervous and Mental Diseases, Church and Peterson.

[9] Freud and Rie, Klinische Studie über die halbseitige Cerebral-lähmung der Kinder, Vienna, 1891.

[10] Sachs, The Nervous diseases of Children, 1895.

[11] Art., Infantile Cerebral Palsies, Diseases of Children, Am. Text-Book.

[12] A Clinical Study of Infantile Hemiplegia, by Wm. G. Spiller, Journal of Nervous and Mental Diseases, January, 1897.

EDITORIAL COMMENTS

Fresh Gastric Secretion in Therapeutics.

At a recent meeting of the Société Thérapeutique of Paris (*La Revue Médicale*, November, 1899) M. Frémont (of Vichy) reported very favorably upon his therapeutical experiments with the fresh stomach-secretion of the dog. The juice is watery, limpid and colorless. It contains hydrochloric acid, both "free" (for most reagents) and in an unknown combination; pepsin (doubtless very different from the isolated product of the chemist); "labferment," and many other substances—potassium, sodium, iron—the combination of which makes a liquid that is quite impossible of production *in vitro*. It is, therefore, not surprising that the results should be very different from those that can be expected from the artificial mixture of pepsin and hydrochloric acid.—In treating cases of defective gastric secretion with this preparation his results have been "really remarkable." He cites specially a case of apeptic dyspepsia which had reached a pitiable state of cachexia and emaciation in spite of rational treatment. With no other remedy except artificial gastric juice administered in milk the patient's recovery was progressive and speedy. M. Frêmont believes fresh animal gastric juice to be of great value in all cases of hyposecretion except the cancerous. The treatment ought to be prolonged; his longest period of administration was twelve months; ordinarily the time would be much shorter. The juice may be taken at meal times with the patient's habitual beverages—milk, boullion, beer. The dose varies with the patient; ordinarily from 60 c.c. to 500 c.c. in 24 hours is required. The effect of the remedy is not only to supply nourishment to the exhausted body, but to restore the stomach itself to its normal muscular and glandular activity. —In hypersecretion it is contraindicated.

Antitoxic Serum for the Plague.

For those who are hastily affirming the decadence of scientific research in France today, we recommend the reading in full of the recent admirable report on the plague at Oporto, Portugal, made by Dr. A. Calmette, director of the Pasteur Institute at Lille, France.–In company with a colleague, Dr. Salimbeni, Dr. Calmette went to Oporto early in September last, about a month after the disease was first recognized. He made systematic observations of the outbreak and mode of infection of the disease, the hygienic conditions of the city, the the measures adopted to prevent further spread of the contagion, and the effects of the latest antitoxic serum. The report should be carefully read from first to last word by those who wish to get a comprehensive idea of the plague in all its bearings. There is no space here to do more than comment on the serum-treatment.—The Portuguese physicians were not ignorant of the first fortunate experiments made by Yersin at Amoy and Canton in 1896; but their confidence was much shaken by the report of the German Commission which studied the plague in India in 1897. The Commission's experiences with the earliest serum were only moderately successful. It was far too weak and served generally only to immunize.—Dr. Roux and his pupils at the Pasteur Institute, encouraged by the seeming promise of the first results, persevered in seeking for a serum that should be both prophylactic and curative. Every known method was successively employed in vain. After numberless disappointments it was finally decided to inject directly into the veins of the horse large quantities of pest-bacilli that had been killed by heat. After a long time—more than a year—these horses finally produced an effective serum. Of this it was found that one-fortieth of one cubic centimeter would immunize a healthy mouse and one-quarter of one cubic centimetre would quickly and completely cure an inoculated mouse. Dr. Calmette was able to convince the local authorities at Oporto of the effectiveness of this remedy, and when it was finally introduced into the Pest Hospital it reduced the death-rate (in the worst and most dangerous class of cases) from 33 per cent. to 13 per cent. of the cases treated.—The administration is very similar to that of diphtheria antitoxin. The dose must be repeated in severe cases and must be used heroically in the dangerous forms. Recovery was seen after its use even in one extremely dangerous case of plague-pneumonia. No bad effects were noted from the injections. Immunity in those vaccinated before exposure unfortunately lasts only about 30 days.—The writer recommends the following preventive measures in communities where the plague has appeared: (1) Obligatory isolation of actual cases in a special hospital; (2) obligatory inoculation of all persons actually exposed, or living in a house where cases have appeared; (3) burning, or at least disinfection and abandonment for 20 days of every house where a case has developed; (4) methodical destruction of all rats and mice in warehouses, dwellings and out-houses—the corpses not to be touched with the hands but taken in tongs or forceps and burned bodily or dropped into sulphuric acid; (5) canvassing of the infected districts twice per day by sanitary police who shall at once report and isolate all cases of suspicious disease. B.

The Use of Incubators

At the stated meeting of the Section on Pediatrics at the New York Academy of Medicine, November 9, 1899, a most interesting and instructive discussion was held in regard to the use of incubators in rearing undersized infants. Several very important reasons were offered for the high mortality among this class of patients. Among the causes particularly noted were: insufficient supply of fresh air, lack of development of the lungs and chest walls, atelectasis, improperly cleansed incubators leading to various forms of infection, and, lastly, improper feeding.

When modified milk is used very low percentages of fats and proteids are insisted upon. In *Revue Mensuelle des Maladies de l'Enfance* for December, 1899, is an article by Prof. V. Hutinel, detailing the results of his experience in the use of incubators at the Hospice des Enfants-Assistés. The high mortality among incubator-babies he attributes to the following causes. 1, Some infants are not viable; their organs being incompletely formed cannot perform functions necessary for the maintenance of life. 2, Others present malformations inconsistent with life, or are affected with hereditary taint, as syphilis, which has already done irreparable damage at the time of birth. In these two cases the incubator is useless; if it protects against cold, which is all it can do, it cannot perfect undeveloped organs or cure hereditary blemishes. 3, Some babies which seem well at birth fall ill soon after, are put in an incubator and die there. In these cases the incubator is not to blame. 4, This class includes premature infants who are apparently well developed and comparatively healthy when placed in the incubator. It seems as if they ought to develop, but they die after a few days. The author considers that they die from various infections. These are not simple surface infections, for the actual presence of the pus-producing organisms in the blood has been frequently demonstrated. The infections are due to the lack of resisting power on the part of the infantile mucous membranes which cannot oppose the entrance of germs if the surrounding atmosphere is contaminated. That the air comes from outside is not sufficient to eliminate contagion, as the incubator must be opened from time to time and the patients are attended by those who may readily infect them. The author insists most strongly upon a well ventilated and sunny room for incubators, and holds that in hospitals there should be at least three apartments devoted to the rearing of premature infants—one for the healthy, one for the ailing, and one for the ill ones. Germs undoubtedly flourish in an incubator, with its constantly elevated temperature, so that an infant should be removed just as soon as it is able to maintain its temperature at 98.4° F. for thirty-six or forty-eight hours. It should then be enveloped in cotton and surrounded with hot bottles. Plenty of fresh air and sunshine is required. If one of these babies falls ill it must be separated at once from the others. In regard to putting it back into the incubator—infection when it occurs is more likely to be benign outside. Incubators should be so constructed that they can be readily cleansed. The temperature changes involved in doing this are of little importance provided they are not too prolonged. By following these principles the author has lost only three out of twenty-one cases, averaging less than four and a half pounds.

T.

Trional.—M. Pouchet having observed that trional is soluble in 20 parts of oil of sweet almonds proposes this formula (Potion):

Trional	1.00	grammes
Oil of sweet almonds	20.00	“
Sugar	8.00	“
Gum trag. Gum arab. } each	0.20	“
Orange flower water	12.00	“

This makes an emulsion, and may be taken in a half glass of water or milk.—*La Revue Méd.*, 1899, viii., 483.

SOCIETY REPORTS

THE PHILADELPHIA PEDIATRIC SOCIETY.

Stated Meeting, December 12, 1899.

The President, Dr. E. E. GRAHAM, in the Chair.

Dr. C. F. JUDSON exhibited a patient with **Erb's Paralysis;** one with rotary spasm and one with cerebral paralysis.

Case I.—Rotary spasm. The movements of the head were from side to side, alternating with nystagmus, and aggravated by excitement. The child was rachitic. The mother had three attacks of chorea in childhood.

Case II.—Erb's paralysis, the result of a forceps delivery. When observed in the dispensary there was marked atrophy of the deltoid, trapezius and extensor muscles of the forearm. The supra- and infraspinatus, rhomboidei and serratus magnus were also affected. Trophic and sensory changes were present. Supination was effected by the biceps. There was no contracture at the elbow, but the fingers could not be straightened.

Case III.—Cerebral hemiplegia. Girl, aged 2 years 9 months. At the age of 10 months paralysis of the left half of the body came on suddenly, ushered in by convulsions and followed by stupor. She lost power of speech completely. At 18 months the convulsions recurred during the night and again the night before she was shown. Facial paralysis (left-sided) was first noticed at this time. At the date of observation the child had partially recovered, could speak a few words and seemed intelligent. Post-paralytic phenomena observed were muscular twitching and a fine tremor of both arm and leg. There were moderate trophic changes. The patellar reflex could not be elicited, the plantar was present.

Case IV.—Cerebral diplegia. (Reported, but not exhibited.) M. T., 15 months. Labor tedious, breech presentation. Examination showed marked muscular weakness. Expression of defective intelligence. The head and body could not be supported, but were constantly thrown backward in a spasmodic manner, while the legs were rigidly extended. Markedly ataxic movements of arms and legs were noticed when she lay on her back. There was inability to evacuate the bladder except at long intervals, two to three times in the 24 hours. The plantar, patellar and abdominal reflexes were present. No ankle-clonus. The child knew its toys, grasped objects fairly well, and could flex legs on pelvis with the aid of its hands. She could speak a few words. It was evidently a birth paralysis, probably due to meningeal hemorrhage.

DISCUSSION.

Dr. JOHN MADISON TAYLOR.—I wish to ask Dr. Judson to tell us what are the rotary and spasmodic movements which the child makes, other than that we now see, which is chiefly a tendency to view objects sidewise and nothing else. This could be due to a high degree of refractive error in the eye, among other things, and such a condition alone might produce rotary spasms.

Dr. J. P. CROZIER GRIFFITH.—I had the opportunity of seeing the first case, that of the colored child, when it first came to the hospital, as it was in my service at the time. At first its movements were very striking. It had no nodding, but had an almost constant rotary movement of the head. This movement would cease at times and be replaced by the nystagmus. Apparently the two did not concur. The rotary spasm is not at all common as far as my experience goes, and does not seem to be dependent on any organic lesion. Irritation of the cortical centers is generally supposed to be the cause.

In regard to the case of paralysis in which there was some history of tremor, I was much interested some years ago in finding how few cases comparatively there were of post-hemiplegic tremor reported. Choreiform movements and even athetosis appear to be much more common. I have come across but one case of tremor, though I have seen a large number of cerebral palsies.

Dr. A. A. ESHNER.—I wish to say a word about the first case, that of rotary spasm. We have seen a not inconsiderable number of such cases at the Infirmary for Nervous Diseases, and though Dr. Griffith did not say so, of course he knows rickets is probably the most important etiologic factor. In all of the cases that I have seen rickets has been the cause, and with the correction of this condition the spasm disappears.

Dr. Griffith's remarks in relation to athetoid movements, choreiform movements and tremor in relation to cerebral lesions, were illustrated in an interesting manner by a case exhibited recently by Dr. Spiller before the Neurological Society, in which there evidently was a cerebral lesion occuring early in life without noteworthy paralysis, but in which there was unilateral intermittent or remittent tonic spasm of varying intensity. It seems to me that these several phenomena are dependent upon similar causes, their variations depending upon differences in localization.

It may thus be conceived that a lesion in one portion of the central nervous system might give rise to the more familiar phenomena encountered, the palsies; a lesion in a neighboring situation to the athetoid movements; and other lesions in nearby situations to the choreiform movements and the tremor, respectively. In most cases the spasmodic movements are associated with palsy. Rarely, as in the case of Dr. Spiller, the spasmodic may be present without the paralytic phenomena.

Dr. Judson.—I did not have an opportunity of observing the case until last summer, and the mother was not able to give me a clear description of the early convulsions. I was not able to determine in what group of muscles they originated. They had not recurred until last night for a period of six months. The last attack seemed epileptic in character. The post-paralytic phenomena noticed were a fine tremor of the hand and the spastic condition of the leg, and this was only observed by the mother occasionally.

With regard to the colored child there was quite a marked evidence of rickets; the epiphyses were enlarged, the abdomen prominent, the anterior fontanelle open at 15 months and teething somewhat delayed. Under better conditions as to diet the child improved.

These cases were observed in the dispensaries of Dr. Griffith and in the Children's Hospital.

Drs. Alfred Hand, Jr. and F. W. Stewart reported a case of **Dilatation of the Colon.**

The patient was a boy 6 years old, in whom distention of the abdomen and constipation had been noticed from the age of 3 months. On admission the greatest girth of the abdomen was midway between the umbilicus and the ensiform cartilage, the measurement being 71 cm. Massage, strychnine, and electricity relieved the dyspnea and the distention so that two weeks later, before leaving the hospital, the girth had been reduced 12.5 cm. (5 inches).

He was admitted to the Pennsylvania Hospital August 30, 1899; seventeen days later he died of exhaustion. At the *post-mortem* the colon was found to be enormously distended, measuring 17 cm. in circumference. Ten cm. above the ileocecal valve was a hard, fibrous constriction measuring 6 cm. in circumference; 30 cm. above the anus, a similar constriction 5 cm. in circumference· The colic walls were thickened and covered with large ulcers. The rectal circumference was 16 cm.

All cases of chronic constipation with a persistently swollen abdomen should be scrutinized by the surgeon. It is often impossible to determine whether the dilatation be due to a remediable obstruction, or be "idiopathic;" and even if no cause be found after exploratory incision, the dilated colon may be drained by an artificial anus, excised, or side-tracked by implanting the ileum into the rectum, thus allowing the colon to atrophy. Resection of the sigmoid might be advisable, as dilatation of this portion of the bowel alone has been observed in several cases. Suturing of the sigmoid to the anterior parietal peritoneum would prevent any kinking of this portion of the bowel.

DISCUSSION.

Dr. D. L. Edsall.—It seems to me that the reason that so many of these cases are considered idiopathic is that when they come to autopsy the distention of the bowel is so great as to disturb the relations of the various parts of the bowel and of surrounding structures and to mask a cause which may have been evident early in the disease. For instance, in the case which I reported here last year, the cause was undoubtedly kinking of the sigmoid; had this case reached the stage of very extreme distention of the colon the condition could scarcely be attributed to such a cause, because it would then seem most logical to consider the kinking a result of the distention. I have been confirmed in my belief that kinking in the sigmoid is a cause of this condition, which must be considered probable in many cases, and also that the terms idiopathic and congenital are frequently only masks for an ignorance which is due to lack of opportunity for *post-mortem* examination and to imperfect consideration of *post-mortem* findings. The case recently reported by Göppert in the *Archiv f. Verdauungskrankheiten* would commonly have been classed as congenital and idiopathic.

The child was born in apparently good condition, but it was extremely constipated and soon presented the usual appearance of dilatation of the colon. Göppert saw the case in the second week of life, and, investigating the rectum, found distinct kinking at the upper part. The treatment was based upon the discovery of the kink; the bowel was washed out and a tube placed permanently in the bowel, the result being practical cure after a series of months of treatment. The review of the literature, which was carefully undertaken, demonstrates that many cases already reported may be fairly classed as resulting from kinking of the sigmoid or upper part of the rectum. I do not wish to claim that kinking of the sigmoid is the chief or only cause of dilatation of the colon, but I do think this point has not been sufficiently emphasized in most of the papers on the subject.

Dr. HAND.—With regard to the medical treatment I do not wish to emphasize to too great extent the improvement which was apparent in this case. It simply meant to my mind that the boy was getting in fit condition for some surgical procedure, the making of an artificial anus, or whatever seemed best. This could not be carried out because of his removal from the hospital.

Dr. J. MADISON TAYLOR read, **Notes on Unusual Forms of Disease Occurring in Children.**—(To appear in full in PEDIATRICS for February 15, 1900.)

DISCUSSION.

Dr. J. T. RUGH.—Some years ago a case of arthritis deformans in a boy of 11 years came under my notice. The condition was first diagnosed tubercular arthritis of the knee, but upon close examination I found both knees equally affected, also both ankles, and beginning involvement of the small joints of the hand. I had the boy under observation and treatment for three years and when I last saw him he was well. The treatment consisted of cod liver oil and syrup of hydriodic acid, 1 dram t.i.d. and it removed all traces of the disease.

DR. ALFRED HAND, Jr. reported a case of **Multiple Auto-Vaccination.**

The patient, a boy 2 years old, was seen five weeks after vaccination; the protective dressing had been removed after ten days, and a week after this removal there began to appear singly a number of vesicles in different parts of the body, evidently carried by the finger-nails in scratching, the lesions becoming pustules and drying to crusts, leaving a pitted scar.

Dr. J. H. MCKEE.—Several years ago, while vaccine physician, I saw several of these cases of multiple inoculation from the initial lesion. In some of these, lesions of the skin which had pre-existed became infected, and in others multiple vaccinations appeared to occur without any previous lesion of the skin whatsoever. In one case I saw such multiple inoculation occur where the irritation was produced by one of the old-fashioned rubber plaster shields. While speaking of vaccination, I recall several cases in which various skin lesions appeared upon the body after vaccination. Dr. Schamberg believes that most of these cases represent infections. I had such an experience a short time ago in my own family. Though vaccination was done with great caution, there appeared some diffused redness of the skin, some papules, and some inflammatory nodules. The local result itself was very slight.

I wish to mention in the same connection a method of vaccination which I have been employing at the suggestion of Dr. J. P. Arnold. It consists in the use of a 30 per cent. solution of sodium hydroxide, first cleansing the surface with sterile water and then placing a drop of the solution upon the arm. In the course of 40 or 50 seconds, or when the epidermis presents a honey-combed appearance, wash off the solution and blow the glycerinated lymph on that point. I am informed that this is a sure method but I had never heard of it before. In about thirty cases of primary vaccination I have not had a single failure with this method.

ABSTRACTS

FUNCTIONAL CARDIAC MURMURS.

A. Jacobi, M.D., LL.D. (*The American Medical Quarterly*, September, 1899), says:

Changes in the shape of the chest-wall, such as annoy the heart, alter the character of the cardiac sounds. In three cases of rhachitical infraction of ribs Hochsinger observed distinct cardiac murmurs; Steffen the same in the common forms of rhachitical deformities of the chest. These forty years I had many opportunities of publicly demonstrating, with or without apparent hypertrophies of the heart, more or less marked cardiac murmurs attributable to the triangular or quadrangular shape of the rhachitical thorax, the walls of which, being no longer elliptical, touch a larger surface of the heart. These murmurs are not always the same. Within a few minutes the well-marked cardiac murmur of a baby sitting erect or bent forward may change into a muffled sound when the patient lies down—the best proof of its resulting from the mechanical annoyance on the part of the chest-wall. Indeed this muffled sound and the murmur differ only in degree. The former may often be produced by the pressure of the stethoscope on the flexible ribs of the young. Such observations, as noticed by Henoch, and also by Hochsinger, who, however, speaks of a coarse heart-sound only, may readily be verified, provided the age of the patient is taken into account. They will be the more positive the younger the baby and the more flexible the ribs. Now and then the cardiac sound may be changed by pressure over the pulmonary artery.

Functional should be called all those murmurs which cannot be explained by any anatomical alteration of a valve or of the myocardium. The causes, however, which are responsible for the exhibition of functional murmurs are altogether too numerous. To say that no single theory explains their etiology is not doing justice to the case. Indeed, there are but few conditions of the heart and bloodvessels to which "functional murmurs" are not traced back. Thus the imagination or the diagnostic skill—or its absence—of the writer has always a great deal to do with their alleged nosogeny. Protracted diseases and convalescences, losses and abnormal conditions of the blood, all forms of anemia, chorea, poisoning by alkalies or by acids, acute intoxications and long-continued eruptive fevers, septic processes, irregular contractions of the myocardium, degeneration of papillary muscles, minute disturbances of valves or of bloodvessels, chronic myocarditis, fatty degeneration, are all charged with causing "functional" murmurs. Nervous influences also come in for their share. Undoubtedly, strong emotions, excitement, mainly in the young and those very impressible, influence the heart in the most various ways, from temporary palpitation to change of structure.

As far as the heart is concerned, its muscular labor depends, moreover, even on the amount of support it finds in neighboring organs. The inability of lying on the left side, which is experienced by most healthy people, is caused in this manner. In that position the heart is more flaccid and requires more exertion to overcome resistance, a fact which is best shown by the increase in the number of respirations.

Functional murmurs are described as soft and low, short or long, not always blowing, and are frequently combined with, or the terminations of, a more or less normal heart-sound. In almost every instance they are systolic; in the adult they are mostly aortic, and then audible in the carotid; in the child they are more frequently found over the pulmonary or over the pulmonary and mitral regions. In regard to the locality and extent of their audibility there have been many differences of opinion; still there appears to be unanimity in regard to their inaudibility posteriorly in almost every case. A functional murmur may persist weeks and even months, but it has not the uniform quality of an organic murmur. It is more or less soft, or loud, or prolonged. Many disappear quite rapidly, or, after having vanished, return. In this respect they differ widely from organic murmurs, which are more persistent as far as time and character are concerned. It should, however, not be forgotten that organic valvular murmurs may disappear either through recovery from endocarditis or through the establishment of compensation. But in these cases they diminish in loudness and duration very gradually only. Nor should it be overlooked that an increased frequency of the pulse with its frequent and insufficient contraction of the heart muscle, and thin bloodvessels, and shortened valve excursion, conceals a murmur which was present when the pulse was slow, or which returns when a cardiac stimulant reduces the number of heart beats.

Duplicated sounds should almost never be taken to be either accidental or functional. They are nearly always organic and of more value than Leube appears willing to assume, both the splitting of the second sound (gallop rhythm—UU) and that of the first (UU—"rappel" of the French). The former is often observed in aortic stenosis, in chronic nephritis, sometimes also in conditions of utter exhaustion, and in very bad cases of chlorosis; the latter in mitral stenosis, sometimes with oliguria followed by polyuria. Both of them are rare in infants and in the very old. A fine specimen of the last anomaly has been under my observation (Charles G., ten years old, with the diagnosis of mitral stenosis and chronic myocarditis) in my division of Roosevelt Hospital.

Vascular murmurs should not easily be mistaken for cardiac; as a rule, they are transmitted. They are very rarely confined to the arteries of the neck, either in the adult or in the young. The relatively large size of the carotid in the young, mainly in the rhachitical young, with its lowered blood-pressure, may give rise to an occasional soft murmur. This infantile condition of the carotid (and basilar) artery accounts for the murmur which is often audible over the open fontanelle and was (rather erroneously) attributed by Fisher (Boston, 1835) to rhachitis only; it is quite possible that the irregular shape of the rhachitical carotid canal contributes to the murmur which has always been mentioned among the "functional." If, however, the large size of the artery, with its consecutive diminution of blood-pressure, or an anatomical change in the carotid canal, or both, cause the murmur, to what extent are we justified in calling functional the murmur which is due to tangible anatomical causes?

Venous murmurs should never be mistaken for those originating in the heart. They are frequent, mostly about the chest and neck, and generally found in anemic adults, less so in anemic children, still less in infants, and never, it appears, in babies suffering from atrophy. The jugular vein is a frequent seat of murmur, particularly when the bulbus v. jugularis is large compared with the size of the vein; in these cases the murmur is explained by the formation of a vortex. The v. anonymæ also exhibit murmurs, which are combined with those of the jugular, are heard on both sides of the steurnum, and are not isochronous with the sounds of the heart. When such murmurs are complicated with those of the apparently normal heart in adults, it is mostly safe to claim the latter as functional; when in children, and particularly in small children, as organic. For the number of very young children that develop other than organic murmurs is small. That is why, while venous murmurs are frequent in pernicious anemia, leucocythemia, scurvy, and hemophilia of the adult, even when cardiac murmurs are still absent or not marked, they are often missed in those of the young child. In fifty cases of infantile scurvy I do not remember to have ever met them. Why should this be so?

The heart of the young is comparatively large, heavy, and healthy. Its weight in the newly born is 0.89 per cent. of the body-weight; in the adult, 0.52 per cent. In the newly born the cavity, however, is small, 23 c.cm., compared with 100 c.cm. at the seventh and 140 c.cm. at the fifteenth year. Its muscle is massive, equally thick on the right and left sides, its contractions rhythmical and energetic and quite frequent. That is why the valves, which are small and elastic, vibrate easily and quickly. During the first five years there is an increase of the heart in bulk and weight, but none in circumference. That is why the area of dullness in early age is extensive and the impetus quite marked. The cavities dilate rapidly only after the fifth year, and the large arteries, mainly the carotid and subclavian, lose their disproportionately large size only after the seventh year.

This condition of things prevents a predisposition on the part of the infant heart to murmurs of any kind. Indeed, they are very rare in the first four years. In regard to this fact, which was clearly stated by me in 1888,* the authorities do not always agree. Fifty years ago Charles West expressed the opinion that they were frequent, but it is very probable he mistook or meant vascular murmurs. Gerhardt thinks they are rare. Biedert and Steffen, however, frequent. Bouchut believed them to be very frequent, under the impression that what he described as a proliferating endocarditis ("endocardite végétante") in the newly born must necessarily cause murmurs. What he so denominated was, however, nothing but Albini's valvular nodes, or the "blood-cysts" of Luschka and of Parrot, recently again described by Giovianni Berti ("noduli iematici delle valvule cardiache," 1898), that is, small elevations on the lower side of the valves containing or depending on minute hemorrhages. They are very frequent and liable to disappear, but do not always do so. They are apt to be on the mitral valve; are found in the newly born, and persist, and suggest the diagnosis of intrauterine heart disease; but are found in the left cardiac cavity, contrary to the rule according to which fetal inflammation or arrest of development occurs in the right side and do not result in either dilatation or hypertrophy. Such cases, the like of which I have an opportunity to demonstrate in my clinic perhaps once a year, must surely have been observed by Hochsinger when he absolutely and positively denied the occurrence of functional murmurs within the first few years of life. Surely these murmurs when found cannot be called functional; they are organic.

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* Brooklyn Medical Journal, March, 1888: "The heart exhibits functional murmurs but seldom. Whenever there are murmurs present in the infant, it is safe to attribute them to organic disease rather than to mere functional disorder."

THE CAUSE AND TREATMENT OF RECURRING LARYNGEAL STENOSIS FOLLOWING INTUBATION.

Louis Fischer, M.D. (*Med. Record*, 1899, 36, 816), considers that this condition is primarily caused by forcibly pushing a tube into an edematous or infiltrated mucous membrane. Metallic tubes that have been worn for a long time contain large calcareous deposits; the latter are due to a deposit of lime salts contained in the diphtheritic membrane, and when removing such a tube during extubation, the mucous membrane is easily lacerated and thus ulceration is caused.

An injury to the larynx can be done by a tube that does not fit; it may result from an imperfectly constructed tube, or from a perfect tube that is too large for the lumen of the larynx, although proper for the age, or from a tube that is perfect in fit and make, if not cleaned at proper intervals. Exceptions to this rule result from injury produced by the head of the tube on either side of the base of the epiglottis, just above the ventricular bands.

Anatomically, normally, there exists a constriction in the cricoid region. When the mucous membrane infiltrates or becomes edematous, it swells to a great extent and only toward the centre, as the outside is surrounded by cricoid cartilage, and while swelling toward the centre, mechanically impedes respiration, and thus calls for mechanical relief, *i. e.*, intubation. O'Dwyer states that if a tube is forced into the larynx in a case of this kind, ulceration and sloughing of the tissues are inevitable, and in some instances necrosis of the cricoid cartilage can result from interference with the circulation. Our only safeguard in preventing too much mechanical injury, as in the condition above cited, is to introduce "a tube of small calibre."

In the early stage of this form of cases the dyspnea returns slowly. Sometimes several days or in some instances only a few hours may pass before the former condition of laryngeal stenosis is recognized and the necessity for the introduction of a proper tube is demanded. When the dyspnea returns slowly, it means that the lining membrane of the larynx cannot swell while the tube is in position, because it is compressed between the tube and the cartilage. It requires some time for the reappearance of the edematous tissue, which drops into the chink of the glottis and obstructs the respiration, the latter condition being mechanically prevented as long as the tube is *in situ*. Exceptional cases have been reported in which granulation tissue springs up from the antero-lateral aspects of the larynx just above the ventricular bands.

Paralysis of the vocal cords, although known to exist, is very hard to diagnosticate without a proper laryngoscopic examination. Like other forms of paralysis it comes very late in the course of the disease, and if, after wearing an intubation tube for a short time, laryngeal stenosis recurs, it is safe to assume that paralysis of the vocal cords is not the cause of the immediately recurring stenosis.

To prevent recurring laryngeal stenosis in ordinary membranous diphtheria, every tube must be introduced in the gentlest manner possible; the slightest force exerted will lacerate the tissues. According to O'Dwyer, tubes should be removed at the end of five days to avoid irritation from calcareous deposits. These deposits will form only on metal and not on the rubber tubes. The writer has had considerable experience with the beneficial results of a 10 per cent. solution of ichthyol and gelatin as a covering for the rubber tube. In the same manner a film consisting of gelatin or paraffin with iodoform and europhen 3 per cent. solution, was applied in several cases with very good results.

The author publishes the verbatim report of a physician who succeeded finally in introducing a tube on the twentieth attempt. The tube remained in six days and was then extracted after what was apparently a surgical struggle. The child had to be reintubated at the end of half an hour. The writer thinks that the recurring laryngeal stenosis was due to the traumatism caused by repeated (forcible) introduction of the tube, inviting ulceration by a laceration of the soft tissues. It was necessary to intubate and extubate every three days for a period of forty-nine days, until the stenosis finally disappeared. In this particular case he advised a coating of gelatin and ichthyol over the tube fór the internal medication of the larynx.

DIPHTHEROID STOMATITIS OF THE NEW-BORN.

M. A. Brindeau (*Progrés Médicale*, November 25, 1899) writes as follows: I have recently observed four cases of this affection, which is called also Bednar's Aphthae and (by Parrot) Pterygoid Plaques. It consists of small ulcerations covered with grayish false membrane. They are located oftenest on the palatine vault near the pterygoid apophyses, but may also be met on the median line of the vault, on the frenum of the lower lip, etc. They are seen both in healthy and cachectic infants. The pathogenesis is in dispute. Parrot thought them traumatic; Sevestre and Gastou, mucous manifestations of impetigo. Authors have always found staphylococcus in the false membranes. Balzer and Griffon think

the streptococcus the organism involved. In my cases the streptococcus was found once in pure culture, three times in association with staphylococcus. This is of clinical significance, for in one case the ulcer was the starting point of a fatal erysipelas. In another, where the infant continued to nurse, the mother developed a streptococcic mastitis.

A CASE OF ACUTE LEUKÆMIA.

Louis Guinon and Justin Jolly (*Revue Mensuelle des Maladies de l'Enfance*, 1899, vii) report as rare a case of acute leukæmia.

Dr. Mouls sent a girl, aged 15, to the Hôtel Dieu, on February 20. He had been treating her for some days for what he believed to be febrile chlorosis. The child had never been healthy; she had had measles twice before she was 5 years old, and had had a cough every winter since. Feebleness, weakness and great pallor were observed. However, appetite was preserved and patient continued to eat without vomiting. After two weeks, as she did not get better, her family took her home. Dr. Mouls noted at that time a profound anemia and a continual fever; he fed her on milk and raw meat, without being able to improve the progressive weakness.

She was very thin, extremely pale and bloodless; the mucous membranes were also pale. Her conntenance was bloated, but there was no real edema. The palm of the hand was yellow, as in typhoid fever, and covered with scales. She was quite intelligent, yet answered all questions with lassitude, and was so feeble she could hardly sit up.

The skin was dry and somewhat warm; the fever had stopped. The pulse was feeble but regular and rapid (128); systolic murmur over the pulmonary space. Respiration was shallow, somewhat hurried, without any sensation of dyspnea. The liver was plainly increased in size and extended a finger's breadth below the free border of the ribs. The spleen showed an increased dullness.

Anorexia was complete; for four or five days she had vomited most of the ice cream which she took with difficulty.

She was thirsty and her tongue dry. Her belly was not swollen nor tender; bowels, regular.

Urine contained no albumin, but a large quantity of uric acid (57 centigrams per litre). In spite of treatment, alimentation with meat powder, beef brain, bouillon, subcutaneous injections of serum, she grew weaker, and on the 23d and 24th had epistaxis.

On the 25th the author noted purpuric spots on the right arm, some ecchymosis on the forearm, and another spot on the lower part of the right leg. The tongue was dry and desquamating; the gums and teeth were covered with a thick deposit colored brown by blood. The patient refused all nourishment and became prostrated.

On the 26th the feebleness increased rapidly, pulse very weak, 140.

Patient died in the afternoon. The sickness lasted forty days. Examination of the blood showed:

Red corpuscles	685,000
White corpuscles	28,000
Hemoglobin	20 per cent.
Relation of white and red corpuscles	1/24
Corpuscular index	29

The normal number of red corpuscles is 4,500,000 and the normal ratio of white to red 1/800.

The quantity of hemoglobin was diminished in the same proportion as the number of red corpuscles.

Examination of a stained specimen of blood showed the following:

The great majority of white corpuscles was made up of cells of small diameter with a round nucleus and almost invisible protoplasm, having the characteristics of that variety of white corpuscles known as lymphocytes, with the difference that their diameter was perceptibly layer than that of this variety of cell in the normal blood.

These lymphocytes formed 93 per cent. of the number of white corpuscles. Other mononuclears cells resembling the preceding, but with somewhat larger protoplasm, formed 3.6 per cent. of the white corpuscles. They correspond to the large lymphocytes of many authors. The remainder of the leucocytes was composed of large mononuclears (0.6 per 100); polynuclear (2.3 per 100); and eosinophils the (0.1 to 0.2 per 100.

Note a considerable increase of lymphocytes and decrease of polymorphonuclears which comprise the most numerous form in normal blood.

Lastly some few nucleated red blood corpuscles were found. Thus this blood showed a type of that form of leukæmia known as lymphatic leukæmia, a type well differentiated, but a name which should not mislead us in regard to the real origin of the lesion.

The autopsy completed the result of the blood examination by showing scattered lymphomata in the viscera, particularly in the kidneys and liver, and a moderate increase in the size of the liver and the spleen; the lymphatic ganglia, as in known cases of acute leukæmia, were relatively little hypertrophied.

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ORIGINAL ARTICLES

BLOOD DISEASES IN CHILDREN, CLINICAL CONTRIBUTIONS.*

A FATAL CASE OF HEMORRHAGIC PURPURA—SCURVY RESEMBLING SYPHILITIC HEMIPLEGIA—HODGKINS' DISEASE IN A BOY OF SEVEN—ARTHRITIS DEFORMANS IN A BOY OF NINE.

By JOHN MADISON TAYLOR, M.D.,
Professor of Diseases of Children, Philadelphia Polyclinic.

I PRESENT here a series of clinical memoranda, far from complete, which, nevertheless, may prove suggestive. Where the findings are conspicuously incomplete, the reason is that accidental circumstances prevented a more thorough study. Nevertheless, the diagnosis was carefully made, and the cases were seen by several competent clinicians.

As an apology for the presentation of these unsatisfactory records, let me say that it is, in my judgment, better to offer such for criticism than to suppress them. Some of the conditions here presented are rare as occurring in children, and the diagnosis may readily be doubted because certain detailed researches are omitted.

A Fatal Case of Hemorrhagic Purpura in a Girl of Thirteen.—In January, 1899, I saw, in consultation with Dr. C. W. Wilson, of Vineland, N. J., an interesting case of hemorrhagic purpura, occurring in a fine, large, well-developed girl of thirteen. I am indebted to Dr. Wilson for the notes, but we were unable to persuade the family to permit of an autopsy. The remoteness was too great to allow of a proper study of the blood, etc.

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* Read at a meeting of the Philadelphia Pediatric Society, Dec. 1899.

G. M., aged 13, had always been a remarkably vigorous child, and the parents were entirely healthy people, both of them exceptionally stout and high-colored. There was no history of diathetic disease. The only severe illness this child ever had was scarlet fever, six years ago, from which she made a complete recovery.

The present illness began in August, when Dr. Wilson's attention was called to a purpuric spot on the extensor surface of the forearm, mistaken by the mother for a furuncle. The child then complained of feeling tired, with shortness of breath upon exertion, and whenever her flesh became bruised, ever so slightly, an extensive black and blue spot was left. When I saw her a number of these had appeared upon the legs and arms, along with extensive ecchymoses, and a few were seen upon the back. From time to time after this first phenomenon, purpuric spots appeared, scattered, in time becoming a pale brown eruption, the borders of which were well defined and did not disappear on pressure. The gums were perfectly healthy, not at all spongy; the tongue was coated most of the time, and whenever the hemorrhagic eruption grew worse, which it did remittently, the fungiform papillæ at the tip and edges became enlarged and bled readily.

Frequent examinations of the abdominal organs showed nothing amiss, nor was the spleen enlarged at any time. The urine was repeatedly examined; it was usually excessive in amount and showed urates, but no albumin. The heart was normal, but during the latter part of the illness grew noticeably weak, especially as to its first sound. The pulse ranged from 120 to 130. The child complained at times of a great amount of pain in the head.

In the latter part of December a severe attack of influenza occurred, with fever, lasting for more than a week, with a temperature ranging as high as from 104° to 105° F., lasting for two three days. During this time also there was an attack of double vision, and the conjunctivæ were then markedly congested.

The hemorrhage usually took place from the mucous membrane of mouth, lips, nostrils and eyelids On 38 different occasions, there were fresh purpuric outbreaks on the skin; the parts most extensively affected with spots were the calves of the legs. After the attack of influenza the eruption was much aggravated, and subsequent to this the leakage of the blood was conspicuously greater, and not to be lessened by any remedies. In the early part of January hematuria occurred, which lasted for two weeks and then ceased. Before the onset of storms, during this whole period, rheumatoid pains were noticed, at times severe; and these were generally followed by fresh outbreaks of hemorrhagic spots.

Early in February, after having been asleep for some hours, the girl awoke, complained of feeling bitterly cold, vomited, fell into a comatose condition, breathing laboriously and irregularly, the right pupil dilated widely and would not respond to light, the muscles relaxed, and in two hours she was dead. Just previous to her death she appeared to be more comfortable, and it was thought some improvement had been gained. My examination revealed little more than is described in the notes above. The spleen was not enlarged, the hands and feet were cold, and usually remained so; the temperature was below normal, the mouth and lips were encrusted with a blood-stained secretion; the first sound of the heart was weak, the pulse rapid and feeble. Every effort was made to stay the progress of the disease, by all the remedies recommended for such conditions, the enumeration of which would make quite a large list, including calcium chloride, hydrastinine hydrochlorate, ergot, turpentine, and all the blood reconstructives that we could learn of, but the case grew steadily worse.

Two fatal cases of purpura are reported in recent literature, but in both there were well marked complicating conditions which aided in producing the fatal result. In the case of E. A. T. Steele (*Lancet*, April 17, 1896) the disease arose in a case of "scurvy-rickets," and death occurred one day after coming into the hospital. Autopsy showed evidences of characteristic change in the bones, due to scurvy. The case of Claude (*Rev. Mens. des Mal. de l'Enfance*, No. 3, 1896) followed upon measles complicated by broncho-pneumonia. A third case resulted from ptomaine poisoning.

A Case of Scurvy Resembling Syphilitic Hemiplegia.—Dr. C. D. Spivak (now of Denver, Col.) called me in consultation to see a boy 20 months old, who presented very obscure symptoms, the most conspicuous being an almost complete para sis of the right arm and leg. The history is as follows: T. B., the second child of healthy parents, was perfectly well until about a mouth ago, when he began to complain of vague pains. Suddenly the right leg and foot and then the left arm and hand became swollen, red, heated, and upon the soles and palms of a bluish color. Later this swelling subsided, and the left leg and foot, then the right arm and hand, became similarly involved. The swelling gradually extended to the face and ears, which became enormous in size, and at the end of seven days the edema involved both extremities, the abdomen, and the glands in the neck and groin. The edema of the ears rapidly subsided; that of the face and hands came and went several times, but never reached its former size; the iabdomen remained more or less swollen throughout the attack; n the feet the swelling persisted longest. At one time so great was the edema of the dorsum of the foot that an incision was contemplated; this changed later to a condition of leathery consistence and remained thus even during its gradual subsidence. The temperature was variable, never more than 103.5° F. and at the end of three weeks subsided. The breath was exceedingly offensive; the gums, however, were never noticeably diseased. The skin became glazed and more or less cyanotic over the swollen areas, and the tissues pitted upon pressure. Power was lost in the limbs early in the attack; this finally became so extreme as to amount to paralysis, the child lying almost constantly on its right side, where the edema and weakness persisted longest. It was at this time my examination was made, and was less complete than it should have been and under most unfavorable circumstances; I fully expected to see the child soon again, but this was denied me, the family moving away from the house they then occupied, and what little I learned of it subsequently was through hearsay. The boy seemed well nourished; the character of the food we could not accurately learn, but while probably not lacking in amount it was manifestly badly prepared.—Dr. Spivak could learn little about it and was unable to get a great many important facts despite his best efforts. Upon being examined the child cried piteously on the slightest movement, especially of the affected limbs. The knee-jerk on the right side was absent, on the left it was normal; the arm-jerk on the left was normal, but it was impossible to examine the right arm. A patient endeavor was made to study faradic contractility, but this was unsuccessful owing to the terror of the child, though it was our impression that the reaction was unchanged. Both pupils were widely dilated but reacted slightly to light. The head was drawn down on the right shoulder and moving this caused pain. On the buttocks there was a suspicious flat eruption, and on the raphé of the perineum was seen a longitudinal ulcer which, along with the slowness of the progress of the hemiplegia, made us at the time suspect syphilis. Dr. Spivax assured me he had examined the patient for evidences of syphilis but could find none. The heart sounds were normal, the bowels were not disturbed, the tongue was clean, and the appetite fair. The urine contained a few leucocytes, and a slight amount of albumin, but no casts. The only remedies employed were iodide of potash and regulated diet. Dr. Spivak was able to learn that the child soon got perfectly well. It was a great disappointment not to be able to watch the case more closely.

A Case of Hodgkin's Disease in a Boy of Seven.—It may be of interest to mention a few facts which were secured concerning a very interesting case of extensive glandular enlargement and obvious anemia, in a boy which was seen only once at my dispensary at the Polyclinic Hospital. We had hoped to study the case more carefully, and the parents promised to leave him in the hospital. When seen, there had been a number of cases of glandular fever under observation (in December, 1898), and it was thought this might be an instance of that disease, as it presented some of the characteristic appearances. The history showed that the condition had been maintained for a number of months, the temperature was subnormal rather than febrile, and the general health was fair. The glands in the neck ranged in size from that of a pigeon's to a pullet's egg, and so of the axilla. In the left epitrochlear region there was a huge gland, at least 3 inches long, and another of about half the size. In the corresponding region in the right arm there were three masses about the size of olives, and here and there about the lower surface of the abdomen were several glands of considerable size. The spleen was only moderately enlarged. The boy was conspicuously pallid, and had been growing slowly weaker for three or four months. The gait was stiff and awkward; turning the head was painful. He failed to return when promised a bed in the ward, and an energetic search on the part of my assistant, Dr. Darrach, failed to locate the family, who were evidently birds of passage; therefore, this case could not be thoroughly studied.

Arthritis Deformans in a Boy of Nine.—I find among my notes the imperfect account of a boy of 9 years presenting distinct symptoms of arthritis deformans. The case is one which appeared at Dr. S. Weir Mitchell's clinic at the Orthopedic Hospital some years ago, where he was seen by a large clinic audience, and excited a great deal of interest. He improved under treatment for awhile and then disappeared leaving no trace by which further information could be acquired. Through the courtesy of Dr. Mitchell I was allowed to make an abstract of these notes, intending to report them in full, but this is unwarranted in view of their imperfections, and therefore I present a brief summary now.—Cases of arthritis deformans in children have been reported from time to time, following the exanthemata, in the course of a septic osteomyelitis, in hereditary syphilis, and in tuberculosis. In an article by Henry Koplik, in the *Arch. of Ped.* for 1896, he reports eighteen cases as having been found in literature, to which he adds one, a child of 6½ years. In his case the family history was negative, and for the previous year the child had suffered from rheumatoid pains in various joints. At the time of the report nearly all these joints were thickened, some fluctuating, and the range of motion in most was greatly diminished. The epiphyseal ends of the bones were in several joints much thickened. The nature of the disease, he says, still remains in grave doubt. In this same year (November) Dr. Still read a paper before the Medico-Chirurgical Society of London, based upon a study of twenty-two cases. Most of these showed chronic progressive enlargement of the joints associated with engorgement of the lymphatic glands and of the spleen. The knees and wrists were first attacked, not as in rheumatoid arthritis, the smaller joints and the fingers. Undoubtedly, also, the disorder is found in children in much the same form as that seen in adults. This should be differentiated, as he points out, from that rare form of chronic rheumatism, described by Jaccoud, in which there are nodules and organic valvular disease of the heart, without lymphadenitis and splenic enlargement.

To review rapidly the pathogenesis of arthritis deformans, as summed up by Dr. Riesman in the *Journal Am. Med. Ass'n*, Aug. 7, 1897:—There are five prominent theories. The first is that the disease is a form of chronic rheumatism; against this may be urged (*a*) the rarity of endocarditis and other visceral lesions in arthritis deformans; (*b*) the exciting causes of true rheumatism can generally not be traced in the typical severe form of the disease: (*c*) the frequency of the affection in women, the reverse being true in the case of rheumatism; (*d*) the usual failure of the salicylates to relieve. Second, that the disease is a product of the mixture in varying proportions of the inherited taints of rheumatism and gout. Third, that it is allied to gout and due to uric acid. This last view has long been abandoned because the factors leading to the development of the two conditions are totally different; the preponderance of its occurrence in the female sex, the absence of tophi and the occurrence of arthritis deformans in early childhood, all serve to distinguish it from gout. Fourth, that it is of nervous origin. There are many factors which point to the possibility of this; the symmetric distribution of the lesions, the muscular atrophies, the absence of visceral lesions and the slight subjective discomfort produced in the patient. It presents some points of resemblance to the spinal arthropathies, but a study of the spinal cord in this disease presents, as a rule, nothing unusual. The disease has been ascribed to a peripheral neuritis. It has been considered a trophoneurosis, but this again is an insufficient explanation. Fifth, the view that it is an infection. Schueller found a bacillus in the joints in cases of this disease, with which he was able to produce articular changes in animals, analogous to those observed in man. Other observers since then, while finding the bacillus, were unable to reproduce the articular changes. In short, the nature of the disorder still remains in obscurity.

The case here described exhibits the characteristic phenomena of arthritis deformans. For nearly a year the boy suffered a gradual increase in painful deformities involving the various joints, without any history in the family or himself pointing to rheumatism, gout, or other articular disease.

Peter B., aged 9 years, a stout, well-nourished boy, was born at term without complication; had measles in infancy, and possibly diphtheria at 4 years; since which time he has not been strong. No other depressing disease is known of; mentally he has always been somewhat backward, probably because of a difficulty in articulation, which seems now to be referable to stiffness of the jaws. For nearly a year he suffered from a progressive swelling of the joints, beginning in the knees, then invading the feet and hands. There was also a certain degree of tenderness felt on pressure in several articulations. Pain also was felt in the cervical region of the spine, which sometimes extended to the head. This has at times been so distressing as to compel him to lie in bed several days together. Headache also is a frequent symptom. There is a gradual lessening of the power to make all movements, especially in locomotion. The knee joints are most conspicuously enlarged, as also the small joints of the hands and feet. The latter are also tender on movement, voluntary or passive. There is no spinal deformity, no evidence of rickets. The knee-jerks are normal, although the tap causes pain. The heart is rhythmic, the sounds clear.

The salicylates and other anti-rheumatic remedies made no impression upon the condition, but nutritional remedies, cod liver oil, etc., were of material aid. About this time, however, we were denied opportunity of further observation by the failure of the case to return or to be found.

In recent literature W. Stowell reports (*Arch. Ped.*, October, 1896) a case of arthritis deformans in a girl of nine, lasting for three years, with anchylosis of the shoulder and elbows. F. G. Finley (*Montreal Med. Jour.*) reports a case of chronic polyarthritis in a girl of eleven. The child had been bedridden for two years, since which time the pain and swelling had subsided, but the disabling stiffness continued. There was no history of rheumatism nor tuberculosis. Under tonic treatment improvement was satisfactory.

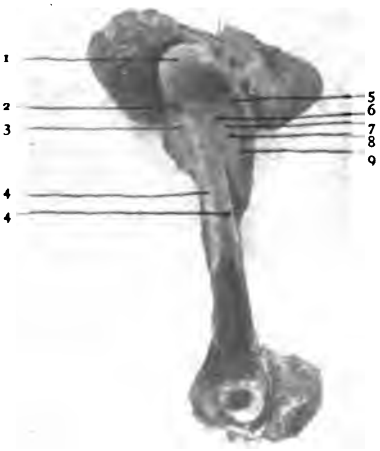
FRACTURES.

By T. Halsted Myers,
New York.

FRACTURE OF THE NECK OF THE FEMUR IN AN INFANT, WITH PHOTOGRAPH OF THE SPECIMEN.

THIS lesion is so extremely rare that I deemed it worth reporting and regret very much that the history is so incomplete.

A child, 6½ months of age, was returned to the Foundling Hospital, from a wet-nurse, in a marasmic condition. The extreme emaciation made the examination of the femur easy. A large, hard tumor was discovered in the region of the great



1 Cartilage of head.
2 Line of fracture ⅓ inch below epiphyseal line.
3 Lesser trochanter.
4 Hypertrophied compact tissue with narrowing and sclerosis of medullary tissue.
5 Great trochanter.
6 Outer edge of shaft stripped of periosteum.
7 Callus formation between the shaft and periosteum.
8 Periosteum stripped from shaft for ¾ inch.
9 Callus outside of periosteum.

trochanter of the right femur. Its surface was smooth, and there was little tenderness. There was no crepitus, no shortening or malposition of the limb. Joint motion was quite free. No history could be obtained of the nature of the accident nor when it occurred. There was no ecchymosis, nor any swelling of the soft parts; no enlargement of the inguinal glands; no elevation of temperature.

With such a negative history the diagnosis was either fracture of the neck or separation of the epiphysis with marasmus, or, possibly, a neoplasm. For six weeks the child continued to fail, but the tumor remained unchanged.

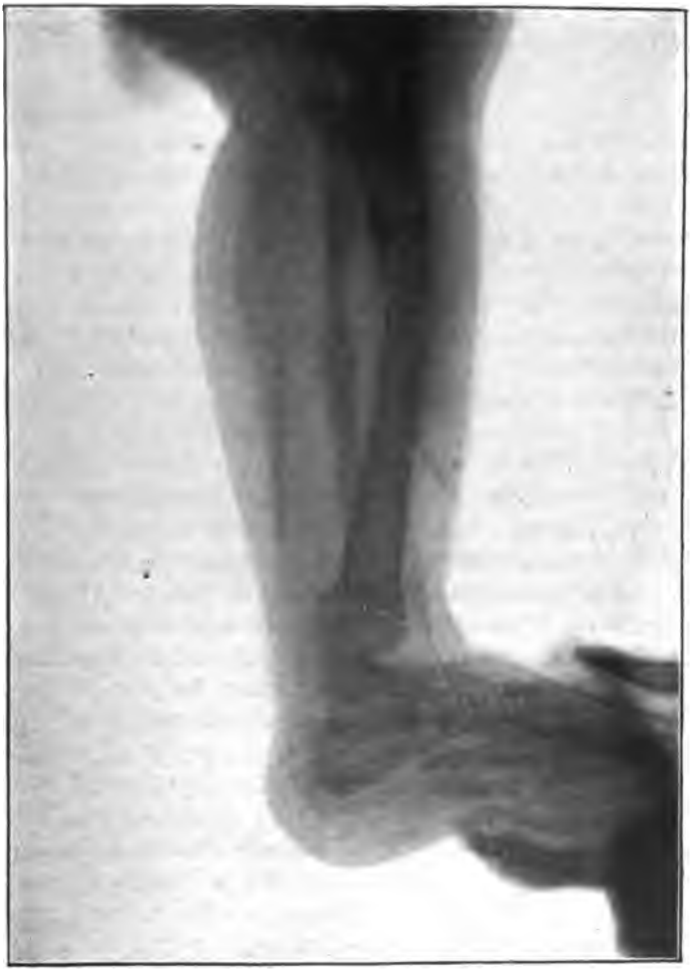
At the autopsy a frontal section was made through the tumor (see photograph) which shows a transverse fracture of the neck of the bone ⅓ inch below the epiphyseal line, with displacement of the lower fragment directly inward one-third the diameter of the bone. The periosteum is stripped off the femur for ¾ inch, and a large amount of callus had been formed both inside and outside the periosteum. Both the compact and cancellous tissue of the upper half of the femur are hypertrophied.

The fracture probably occurred a month at least before I saw the child, as at that time the callus formation had been completed and all tenderness and other swelling disappeared.

FRACTURE OF THE TIBIA AND FIBULA SIMULATING ANTERIOR CURVATURE OF SYPHILITIC ORIGIN.

A child, 18 months of age, with a history of early syphilitic skin lesions, was brought to the Foundling Hospital, having fallen and fractured the left humerus in the middle of the shaft. The child had never walked, and was unwilling to stand at all.

On examination, besides the fracture of the humerus, an anterior curvature appeared to exist in the right tibia with swelling and tenderness over the center of the shaft. There was no crepitus, and but slight tenderness when I saw it, a few days after the fall, yet there seemed to be a slight amount of yielding at the point of swelling on careful attempts to bend the bones,—more than the simple flexibility of a soft bone.



The X-ray shows a transverse fracture of both bones with moderate callus formation but no malposition.

54 West Fiftieth street.

REPORT ON THE CAUSE AND PREVENTION OF INFANT MORTALITY.*

By Ernst Wende, M.D.,
Health Commissioner, Buffalo, N.Y.

(Continued from February 1st isue.)

Milk Legislation.—Every American, realizing the splendid aspirations and possibilities of the sanitarian, should take an interest in milk legislation, for the probable results of laws obtained from the State giving plenary powers to the health authorities in matters of municipal sanitation would be its eventual adoption by every civilized nation. It is of vital importance to all educated persons, not only individually, but also as members of the community, in order that there may be aroused in some minds the necessity of becoming better acquainted with the important details of the milk business.

This visitation of an epidemic should not be so readily forgotten.

For some time legislation affecting agricultural interests has been jealously guarded by the farmer; especially is this the case with such measures as relate to dairy products. Too much attention is paid to the commercial side of the question, and, judging from the reports received, this appears to have influenced some of the courts, as indicated by their rulings. It seems almost incredible that pecuniary loss should be given preference in the consideration of a question where human life is in the balance. If existing laws are inadequate or inefficient they should be immediately remedied. If, then, they are not properly enforced, the blame must rest with the health authorities, who can appeal any case and carry it to the highest court without loss to themselves if they deem the case improperly disposed of by any of the trial courts.

Jurisdiction of Local Authorities.—This question has been variously considered and variously decided. However, the prevailing views held appear to be that the jurisdiction should be confined within the limits where the consumer resides or consumption takes place.

Some States have no dairy laws, and even where those do exist, their enforcement under State supervision is usually unsatisfactory. Each city can be better trusted to more zealously look after the health of its own inhabitants than if taken care of by officials whose interests are divided and whose duties exceed their physical abilities.

The District of Columbia exercises supervision over the dairy interests as far beyond its confines as its market extends and apparently this authority has never been questioned. Kansas City, as well as several other cities from which we have reports, does likewise.

Dairies located beyond the city limits where they propose to sell milk, together with their herds, may be inspected in the same manner as those within the confines of the city, and a satisfactory certificate is given, or the application to transport milk to that city is denied, as warranted by the result of an investigation.

In some instances the expense is borne by the city ordering the inspection, while in others a fee is charged from the proprietor of the dairy so inspected, and the license granted is for a specific period.

Should conditions arise rendering it desirable or necessary to prevent the sale of milk from any dairy, the certificate, license, or permit can be revoked at any time.

No person should be permitted to ship milk into any city without a milk importer's permit, which should only be issued after a careful inspection of the premises and cattle. Before a milk importer's permit is issued a written application should be filed with the Board of Health of the city where it is intended to ship the commodity, such application giving a detailed statement, on blanks furnished for the purpose, of the location and condition of the premises, barns, stables, pastures, food, water supply, number of cows, and a sworn statement from a legally qualified veterinarian as to the condition of the herds. The application should also state facilities and method of caring for the milk until time of shipment, manner of transportation, and city milk vendor to whom milk is consigned. In some, or perhaps most cases, this may be sufficient, while, if the question of authority is raised it can speedily and effectively be disposed of by interdicting the milk at the city line or at the depot, thus preventing its sale within the confines of the city. Commercial interests would soon necessitate a compliance with all such paramount and reasonable demands.

Dairies, Dairy Farms, and Cow-Sheds.—Every municipality should inaugurate a code of rules and regulations for the thorough and systematic inspection of all dairies and cow-sheds. The supervision should be rigid, and performed by an adequate and capable corps of inspectors. All places where milk is sold, as the principal business, either over the counter or from vehicles, should be regarded as dairies; all places where milk is produced should be regarded as dairy-farms.

Before granting a permit to engage in the business, the dairy and the premises, should be inspected sufficiently to insure a freedom of all vicious and unsanitary conditions, which always implies neglect or ignorance, and also with the ultimate object of affording ample protection to the milk-consuming denizens against the frequent infection of milk-borne diseases.

It is much easier to refuse a license before all specified requirements are complied with than to enforce a compliance thereafter.

When the building has been properly constructed and equipped for the event and the dealer made familiar with the imperative necessities for its continuance, it is reasonable to assume that there will be less friction than if he received his instructions bit by bit and under easy sail. Nevertheless, rigid and frequent inspections at irregular intervals are prerequisite, to guard against any negligence or laxity, and any wilful violation, and such other penalty as the case demands.

Again, should a dealer desire to remove to some other location, he should first make application to the health authorities for an inspection of said premises to determine whether they may be used for dairy purposes, and then make such alterations and sanitary improvements as are suggested by the inspector. Failure to comply should mean revocation of his license.

Tuberculin Test.—Of the transmission of tuberculosis by milk, or the degree to which the milk of tuberculous cows is fit for consumption, there is some honest difference of opinion. Some hold that it is only infective when it comes from a tuberculous udder. In view of the practical difficulties in the way of deciding whether the udder disease is tuberculous or not, it is advisable to destroy the milk of any cow with any suspicious affection of that part. It is also safer not to use the milk of a tuberculous cow, even when no udder disease can be found.

A horse infected with glanders, or a dog with rabies, for the well being of the public and safety of other animals, is immediately made away with, but a cow with tuberculosis well established is allowed to linger, no matter whether life be in jeopardy or not, until some one pays full value for her morbid carcass.

Although it is conceded that there is infinitely more risk from the latter than from the former, and that the deadly effects of a tuberculous milch cow are far more extensive, yet it is practically impossible to procure adequate legislation, and even where secured it has been rendered ineffective, either through inappropriate means of enforcement or through the pecuniary indemnity clause. Therefore it would seem that tuberculosis, from its communicability and identity in man and the lower animals, its enormous mortality, and the methods of dissemination, with equally accurate knowledge as to the methods which could restrict its prevalence, directs criticism to what is largely left undone by the State, whose attitude in general is one of negligence or indifference. Whatever legislation there may be on this subject, or in the absence of any specific legislation in any city or State, it is our opinion that the rigid enforcement of this matter lies largely, if not entirely, with the local health authorities.

To illustrate, the Department of Health of the City of Buffalo, probably not exactly in deference to the State law, which requires a compensation for tuberculous animals destroyed, directs all producers to furnish certificates of inspection by a competent veterinary surgeon, specifying the physical examination and the tuberculin test of their herds.

Naturally, this at once raised the protest as to who should pay for such inspections and the cost of the animals destroyed and likewise as a result of condemnation, the point that the city could exercise no jurisdiction beyond its limits. The question of jurisdiction was not entertained for a moment, but promptly disposed of by ruling that the sale of milk from cows not capable of showing a clean bill of health, would be prohibited. The dairymen soon discovered that it was much easier to secure the required certificate than to contest a vexed question which they would lose eventually, besides the possibility of being barred to sell their product within the domains of the city. In the city of New York the same proposition has been handled in a similar manner. This is so admirably discussed by the secretary of the New York Department of Health, in his reply to the committee, that we quote his letter as follows:

"The method of milk inspection adopted and enforced by the Department, to insure a pure milk supply to our citizens, has been brought to what is almost a maximum degree of efficiency, as far as adulteration is concerned. The next important step to take was to prevent the sale and use of milk from diseased animals, and this, of course, could be done only to a limited extent, as the greater part of our milk supply comes from localities over which this department has no jurisdiction.

"To attempt to determine from the milk alone as brought into the city, whether the animals producing it were healthy, is impossible, even if a daily examination could be made; the only practical and sure method being to examine the animals themselves. Within our city limits, however, quite a number of cows (about 3,200) are kept, either to supply milk to the owners, or for sale to the public.

"The disease most to be feared, from the fact of its ready transmittance to man, is tuberculosis, and to the detection of this disease more especially have the efforts of the department been directed, for it seems to be generally conceded by those who have made the subject of tuberculosis a study, that the following facts are not to be controverted:

"1.—That of all diseases that affect mankind tuberculosis is the most prevalent, is the cause of the greatest mortality, and is on the increase. In our own city the deaths from tuberculosis during the past ten years were 61,155, and it is estimated that of the entire number of deaths from all causes throughout the world 14 per cent. are due to tuberculosis.

"2. Tuberculosis in cattle is exactly the same disease as found in man, and is, of course, propagated and transmitted in a precisely similar manner.

"3.—A large proportion of all milch cows are affected with this disease, and while it is difficult to give the absolute percentage of those so diseased, from the fact that the study and investigation of this subject is comparatively recent, still it is universally acknowledged that the prevalence is great.

"In our State, out of 2,147 cows examined, 405 were condemned, but for certain data obtained by the New York State Commissioners on tuberculosis in cattle, 6.93 per cent. was believed to be about the true percentage of tuberculous cows in New York State.

"To diagnose surely and rapidly this disease in milch cows has until the past few years been almost impossible. Now, however, the discovery and perfection of the so-called 'tuberculin test' enables us to do this.

"In every case the tuberculin test has been fully confirmed by the autopsy. This is due to the fact that great care and judgment have been exercised. For it is obvious that to err and pronounce a diseased cow as healthy is as bad, if not worse, than to pronounce a healthy cow diseased. In the first a diseased cow remains in the herd and eventually infects others.

"The result of this work has been to prevent the sale of diseased cows in the city, for all that are now sold are not paid for until the cows are examined by the Department; and this fact necessitates the notification of this Department that the cows in question have not been examined, insuring that no cows not examined and perhaps diseased are brought in contact with healthy animals."

The rules of the State Live Stock Sanitary Board of Pennsylvania provide for the inspection of suspected tuberculous cattle, upon application by owners of herds, at the expense of the State, while, on the other hand, the holder of dairy herds must bear the ransom imposed, and those found to be infected are ordered segregated from those that are healthy, and disposed of in accordance with the regulations of said board. The rules further provide that the stables must be disinfected, and faulty sanitary conditions corrected.

The superintendent of the Bureau of Health of Pittsburgh states that "the work of the Live Stock Sanitary Board is principally confined to the examination of cattle for evidence of tuberculosis and the condemnation and destruction of such as are found infected. In this work it has been greatly hampered by reasons of *insufficient appropriations*, and also, perhaps, *by lack of proper authority*."

Care and Food of Cows.—Naturally, the care of an animal maintains an influence upon its health, and the sequence that an unhealthy cow must produce unhealthy milk. How is the consumer, who is most concerned, to appreciate and conceive this state of affairs?

Necessarily he looks to the authorities for an effective responsibility to compel the dairyman to furnish him with pure and wholesome milk. This can only be accomplished by the State exercising its functions in inspection, supervision under license, with appropriate penalties for infringements.

Stables should contain a sufficient amount of air space, constructed with special reference to ventilation, light and non-absorbent material to permit sanitary cleansing.

Preferably the milking should be done under cleanly auspices, in a compartment separate from the stable, which would insure non-contamination from stable filth. In milking, milk should be protected by washing the udders, "aproning the cows," and to insure personal cleanliness, uniforming the employees and giving them ample facilities for washing.

With properly constructed buildings, excreta can be promptly removed, and contamination of walls, floors and other parts prevented with such ease that there can be no excuse nor difficulty in maintaining a degree of cleanliness and protection.

The relationship between cow-food and the milk product has been closely studied, and if the well known conclusions are followed, the cow can be depended upon to do her duty in complying with the requirements of the State Standard. With an equal chance she would put the dairyman to shame, and in her modesty blush in the recognition of his shortcomings in her behalf and towards the public.

Supervision of the herd should not be limited solely to diseased conditions, but also to the individual capacity of the animals to produce standard milk. Therefore, in the feeding of cows, the dairyman too often overlooks the demonstrated fact that he should not trust to pasturage alone in asking the cow to produce a standard of excellence, but, to render the latter certain, a grain ration is additionally essential.

It is an exaction beyond reason to expect the gentle cow to accomplish great things out of the fullness of her nature, without providing her the necessary pabulum for elaboration.

Transportion.—Generally speaking transportation of milk from dairies to cities is defective. The milk should be transported only in cars, especially constructed for the purpose, to permit speedy and frequent cleansing, and equipped with facilities for refrigeration. Likewise protection from the sun and weather at way stations with refrigeration during the heated term should be insisted upon.

The correction of these objectionable features lies largely with the railroad companies, and unless strenuous and persistent efforts are made by shippers and consignees, there is little likelihood of improvement.

Before filling the cans for shipment, it is essential to scald and thoroughly cleanse them, and the milk should be carefully strained, ærated and cooled to 50° F. or lower before being taken to the railroad platforms.

The dealer should not fail to scald and thoroughly cleanse the empty cans before returning to the farmer. Neglect in this matter cannot be too strongly condemned. In many instances a disgusting condition of filth and sourness will be found in empty cans examined while in return transit, and it is not surprising that almost incredible numbers of bacteria are thus generated in these cans, and only killed by live steam or boiling. This should be regulated by law.

Storage of Milk.—No milk intended for sale should be stored, cooled or mixed in that portion of a building used for stabling or for storing manure, or in any room used, wholly or in part, for domestic or sleeping purposes.

All rooms used for cooling, storing or mixing milk should be provided with tight walls and floors made of a non-absorbent material, and kept scrupulously clean. They should be equipped with proper appliances for washing and sterilizing all utensils employed in handling.

No urinal, water-closets or privy should be located in or near such rooms, or so situated as to pollute the atmosphere of these apartments, and it goes without saying that all plumbing should be strictly sanitary.

City Delivery.—With the best efforts, it is impossible for some dealers in large cities to deliver milk to the consumer before it has attained the age of 24 to 36 hours. Except during the winter temperature, this naturally brings many attending evils. The evils of over-aged, non-protected milk suggest the early adoption, during the summer months, of making it mandatory that milk cans should be properly labeled at point of shipment, with date, verified by railroad station agents, and none permitted to be sold in the city over 28 hours old, and then only when protected by refrigeration both in transit and storage. Railroads are slow, on account of expense, to adopt cold storage protection in transit, and until this is accomplished it would be well to interdict, during the hot season, all milk brought from too distant points. Age, labels, refrigeration, limitation of haul, are cogent factors in milk protection, and no system is complete without supervision in these lines. As a means of identifying milk dealers and their actions while delivering, it is essential that each dealer's wagon should properly and conspicuously display upon each side the number of his license, and in the case of peddlers from cans carried by hand, the number should be properly shown on the can. This latter feature of the business should be abandoned, as from its nature, and as experience has shown, they are the most frequent offenders in milk adulteration, and the most difficult to detect.

Glass Jars and Bottles.—In many towns a large percentage of milk is served in glass jars and bottles, a plan which we acknowledge possesses in some respects advantages to both dairyman and families supplied. However, there exists a most serious objection to this method; while convenience and facility of access are its only recommendations, it is altogether outweighed by the inevitable and terrible risk of the susceptibility of milk as a medium for the transmission of infection. Milk is a common article of food for invalids and convalescents; therefore, when these bottles are taken into the sick room and there contaminated with the germs of disease, if not boiled or thoroughly sterilized, they become the means of spreading the mischief indefinitely. Many obscure cases doubtless have originated in this manner. To properly sterilize bottles involves a serious loss from breakage, and it is almost safe to assume that glass bottles are seldom placed in water of sufficiently high temperature to destroy disease germs.

The temptation also presents itself to milk peddlers to refill bottles on their wagons. The harm done through such action is incalculable.

An ordinance prohibits bottle delivery of milk to houses placarded for infectious disease in Buffalo, and severe penalty is placed upon refilling bottles at any place other than the dairy.

Milk sold in Stores.—Many stores and groceries, for convenience of customers, have milk on sale. The small amount dealt in is subordinate to their business, and considered as a side issue, with absolutely no protection whatever.

This sort of milk traffic should be stopped, because of the possibility of contamination; draughts, store-dust, decomposition, odors are always present in a large degree, while protection, as stated, is *nil.*

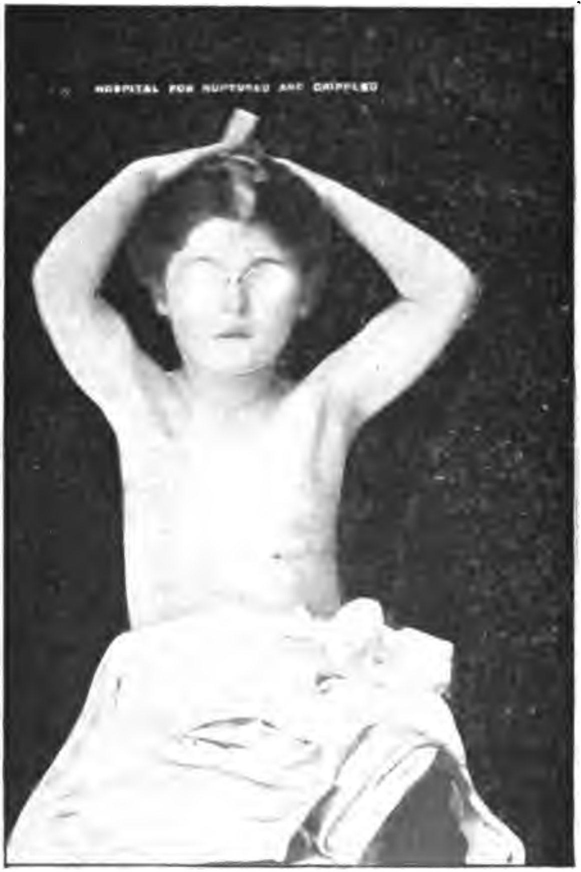
(*To be continued*).

Microscopic Stains.—Careful examination of Burroughs, Wellcome & Co.'s "solid" microscopic stains, Bismarck brown eosin, fuchsine. gentian-violet, and methylene-blue, shows them to be exceedingly convenient for making the usual staining solutions as required for bacteriological and histological methods. Each tabloid contains 0.065 grm. of the stain, so that one tabloid dissolved in 6.5 c.c. of fluid will make a 1 per cent. solution. It is of the greatest importance for diagnostic purposes to have a really good and reliable stain. These tabloids are easy soluble, and their staining reactions are specially good, and compare favorably with those of Grübler of Leipzig. Although the stains in themselves are excellent, the printed directions issued along with them are open to criticism in various particulars, the most important being that the solutions recommended for ordinary staining purposes are usually too weak.—*Edinburgh M. J.*, Dec., 1899.

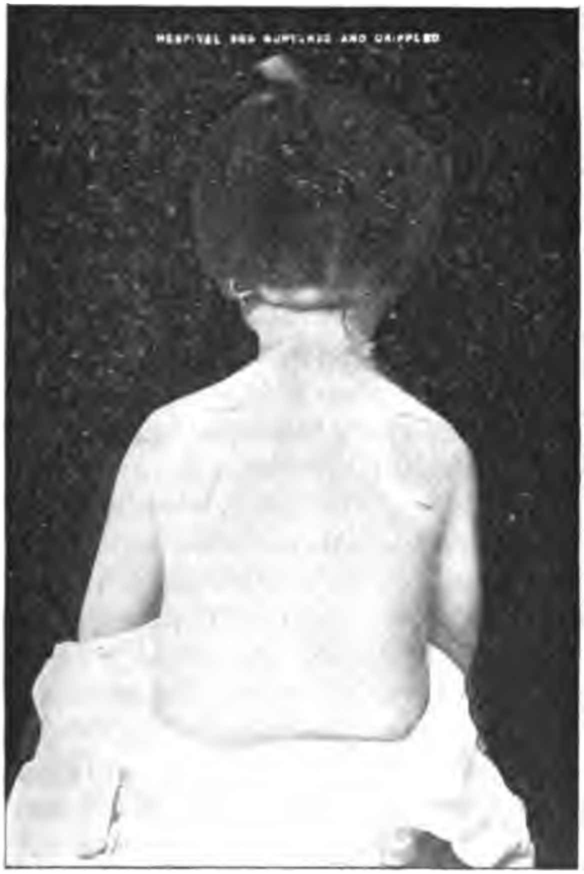
IMPERFECT DEVELOPMENT OF THE RIGHT PECTORALIS MAJOR AND RIGHT SCAPULA.

By Henry Ling Taylor,
New York.

THE patient, a girl, aged 6 years, was brought a short time since to the Hospital for Ruptured and Crippled for a peculiar condition of the upper right side of the chest, which had been noticed as early as the second month. Inspection showed the right side of the chest in the pectoral region very flat; the pectoral muscle being very thin and small, and barely apparent with the arms hanging down. The right scapula was also much smaller than its mate, measuring 3¾



inches along its posterior border, whereas the left measured 4¾ inches. The right scapular muscles were also smaller, but responded well to electrical stimulation. The arms were of equal length, the right clavicle possibly ¼ inch shorter than the left. All the motions and functions of the arm were perfect. The patient's mother complained only of the deformity, which is much more marked than appears in the cut. In the back view the marks indicate the position of the spine and inferior angle of the scapulæ.



The sterno-costal portion of the pectoralis is occasionally absent or nearly so; the writer has seen two such cases. This defect is said to occur nearly always on the right side.

60 West Fifty-Fifth Street.

EDITORIAL COMMENTS

Carrier Pigeons and the Country Practitioner.

The perfection and cheapness of the long distance telephone and its consequent installation in many country neighborhoods have done much to lesson the anxiety, if not the labor, of the country doctor. As the greater part of our country, however, is as yet unprovided with telephone service, a practical suggestion in regard to the use of carrier-pigeons which we find in the recent number of the *Gazette des Hôpitaux* may prove of value to some of our readers. The writer, after having trained a number of pigeons, leaves one or two at the house of his patient to be dispatched with a message should and emergency arise, or to state the morning and evening condition in a critical case. This means of communication gives the patient a sense of security and often serves to lessen the labors of the physician. So well satisfied is the doctor with this that he has established a station in each of the villages in his neighborhood so that he may be promptly summoned for new cases. He finds that he can leave two pigeons, always of the same sex, in a post for about a week. The longer the birds have been absent, the more quickly do they return. After having been away for a week, they are allowed a week's sojourn at home. The pigeon-house has an opening for the entrance of the home-coming birds arranged like the entrance to a mouse-trap. The arrival of a bird in its cote is made known by an electric connection which rings a bell in the doctor's hall. The birds if gotten young are easily trained. They will not fly at night. "This latter peculiarity," the doctor naively remarks, "has its advantages, for the farmer, ordinarily, is prone to wait until the day's work is done before going for the doctor." When he knows that pigeons are at his disposal and that they will not fly at night, he comes by and by to change his habits in this regard. Thus numerous midnight drives are rendered unnecessary for our overworked confrère.

T.

Cold Baths in the Typhoid Fever of Children

In a laborious and extended article, with copious references, M. F. Glénard (*Revue Mens. des Mal. de l'Enfance*, January, 1900) has offered serious food for thought for those who still doubt the efficacy of cold baths for the typhoid fever of children.—The statistics are numerous, are collected from many sources, and are uniformly favorable. The author prefers generally a cold bath (about 72° F.) for ten minutes, adding two or three cold affusions. Massage and friction are to be made, and, in case of a suspected heart, a little Bordeaux or Spanish wine is given after the bath. He draws the following conclusions:—Typhoid fever in children is a grave disease. Treated with medicines only it has a mortality of 15 per cent. With systematic treatment by cold baths the mortality falls (average of reports of different observers) to 2½ per cent. With mixed treatment (baths and medicine combined) the mortality is 11 per cent. The last percentage is only an average, some epidemics showing double or treble this mortality. The mortality of the combined treatment is as great as of the medicinal if the child be under five years or the epidemic severe. With the combined treatment the statistics shows that the disease retains its uncertain prognosis, its liability to complications, its long course and convalescence, its undesirable results. In the bath treatment the average and the extremes of the statistical mortality are close together and all small. The prognosis from the very first days is good; convalescence is short. No collapse has been seen during the systematic and proper use of cold baths in children, even in pneumonia, where the heart is most liable to suffer. It is not too cold baths, nor too long extended baths (within the reasonable limits set by an experienced physician) that cause collapse; more often baths that are too warm, or cold baths given at a too advanced stage, without the medicinal corrective, cause collapse.—The failure of success in balneo-therapeutics will be found due to the failure in making the baths *systematic*. In infants as in adults the systematic cold bath fulfils all the promises first made for it. With such a bath typhoid in children is a benign disease, and it is a benign disease only under this condition.—So far the author.—We are not candidly able to say that the statistics quoted and the cases cited and described are of a fully satisfactory character,—at least not of a character to justify such sweeping conclusions; the paper is, however, of great interest, and, in the main, convincing. B.

Tonsillitis and Rheumatism.

From the fact that tonsillitis often occurs as a precursor of acute arthritis, that it is occasionally undoubtedly followed by acute endocarditis and is sometimes benefited by the administration of salicylates, many are inclined to regard it as of rheumatic origin in many cases. Dr. Packard, of Philadelphia, in a recent article in the *American Journal of the Medical Sciences*, reports several cases of endocarditis and arthritis complicating acute angina. He is disposed to regard these complications not as manifestations of acute rheumatism but rather as cases of irritation of serous surfaces by germs or their toxins which enter the general circulation from the inflamed tonsils. He cites a case of endocarditis which died of broncho-pneumonia, reported by Charrin, in which at autopsy the staphylococcus pyogenes aureus was found both in the tonsils and in the vegetations on the valves of the pulmonary artery. In the cases of endocarditis associated with tonsillitis reported, Packard was unable to find any evidence of articular trouble preceding the attack and in some cases he knew the heart to have been normal previous to it. If we designate these cases rheumatism it is apparent that tonsillitis stands as a cause rather than as an effect of the former disease. Indeed, this latter view is consistent with the so-called germ-hypothesis as to the origin of acute articular rheumatism in contradistinction to the metabolic and nervous hypotheses. This might lead us to the view that acute rheumatism is not due to one specific organism but is rather a form of septic intoxication or septic infection due to the absorption of the products of several species of micro-organisms or the absorption of the germs themselves in some cases. That angina is not always present in rheumatism is true, but the same process of inflammation and absorption may possibly go on elsewhere,—in the gastro-intestinal tract for instance. T.

Note on the Use of Asparagus as a Diuretic.—HARE used an extract made from the tops of asparagus in cases of general edema, with good effect upon the kidneys. The amount of urine was usually considerably increased in the course of a few days. In an advanced case of atheroma, with aortitis, probably fatty heart, it had no effect. In one case digitalis, bitartrate of potassium, and an infusion of juniper berries failed, while under the use of this drug the urine arose from 27 to 40 ℥ per diem. In one case he continued its use for a month with good effect so long as the drug was given.—*Therapeutic Gazette.*

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting January 16, 1900.

JOHN H. HUDDLESTON, Chairman; E. FRANKLIN SMITH, Secretary.

A Criticism of a New Method of Preparing the Skin for Vaccination by Denudation with Caustic Potash Solution. —Dr. F. S. FIELDER, Assistant Demonstrator in Anatomy, Cornell University Medical College; Medical Inspector New York City Health Department, read this paper.

In a paper published in 1898 in the *Journal of the American Medical Association*, Hutchins, of Georgia, recommended a new method of preparing the skin for vaccination by denudation with caustic potash as a substitute for scarification by the usual methods. The advantages claimed for this method are, that it is less painful, that it is not terrifying to the child because no instruments are used, that it causes no bleeding, for which reason it is more likely to be successful than when instruments are used which draw blood. Hutchins first used a 5 per cent. solution of caustic potash in water, soaking a small pledget of absorbent cotton in the solution and allowing it to lie upon the skin of the arm for two or three minutes until the epidermis was denuded, then the surface was wiped dry with another piece of cotton dampened with water. Later he used the deliquescing stick of caustic potash.

The experiments upon which the speaker's paper were based were performed in October, 1898. The cases were all primaries, i.e., they had never been vaccinated before. There were twenty-two of them. The virus employed was in each instance controlled by using it on other cases by the ordinary method of needle scarification. Different strengths were used but none so weak as the officinal liquor potassa.

The speaker then described in detail five experiments, the summary of the results being that where the caustic potash alone was used there were ten insertions, of which seven vesicles were good and one poor, giving a percentage of eighty successful cases. In twelve cases where caustic potash was used on the same arm with the needle scarifications, three presented good vesicles, two fairly good, one fair, and three poor, giving a percentage of seventy-five successful cases. The needle scarifications were used (on the same arm with the caustic potash denudations) for twelve denudations, the character of the vesicles being good in eight, fairly good in two, fair in two—a percentage of one hundred successful cases.

From these experiments it appears that vaccination performed by denudation with solution of caustic potash is less likely to be successful than when performed by needle scarification. The speaker thought this fact to be due to the formation of an eschar by the caustic potash, which makes the surface denuded resemble parchment. The coagulation of the albuninous elements of the tissues closes the mouths of the vessels and lymphatics and renders the absorption of the vaccine virus difficult.

At the writer's request, Dr. A. L. Williams, one of the bacteriologists of the Health Department, examined a section of the skin through the denuded area after the application of caustic potash to the skin of the abdomen of a calf, and the conclusions reached by her were that there may be an obstacle to the entrance of the vaccine organism, either on account of the presence of necrotic tissue or its alkalinity.

As a result of his experiments the writer concludes that it is possible that a person of great skill in the use of the caustic potash might learn to apply it in such a way as not to produce an eschar thick enough to prevent success; but the well known effect of caustic potash upon the skin makes it evident that such cauterization cannot easily be avoided and so the entrance of the vaccine organism will be interfered with.

The writer believed that no ordinary blood-flow interferes with the "taking" of good virus thoroughly rubbed in.

The advantages of the caustic potash method are: (1) It is less painful and less terrifying; (2) It does not draw blood.

The disadvantages are: (1) It takes more time; (2) It requires more skill; (3) It is difficult by this method to denude an area small enough, the vesicles are likely to be too large if the virus is very active; (4) It is less certain than scarification, no matter how skillfully done, because of the formation of an eschar which interferes with absorption.

Finally the writer believed that the disadvantages named, together with the fact that a rather elaborate equipment is required, make this caustic potash method impracticable for use in wholesale vaccinations such as are performed by public vaccinators. In certain cases in private practice it may be of service, as in the instance of a very nervous child where one wishes to avoid terrifying him or to spare him the slight pain caused by scarification.

DISCUSSION.

Dr. MORRIS could see no advantages in the caustic potash method over the usual methods except that it caused less pain, and that he considered a point of small importance and one that should not be considered at all. He could vaccinate a sleeping baby without awaking it which is an evidence that there is not much pain accompanying the usual operation in some hands.

In regard to the eschar left he believed that the destruction of tissue that occurs after the use of the caustic potash might be present even if no vaccine virus had been introduced. He did not believe there was such a thing as a characteristic scar from vaccination. He had seen a bite of a dog result in a scar identical with the one left after vaccination.

In books one reads of the pitting of vaccination; there is no such thing; pitting is produced by the depression of the skin. The large hard cicatrix which is left after the present method of using bovine virus is entirely different from that formerly left by the use of the humanized virus. The pitting is produced because there is no destruction of the skin and the ulcer does not penetrate down to the cellular tissue.

In reference to the flow of blood, in his experience, scarification can be produced by a needle so that there will be absolutely no blood so long as pressure is not made upon the surrounding skin. He thought the success obtained Dr. Fielder was largely due to the method of thoroughly incorporating the virus with blood. The reader of the paper said that the serum and albuminous matter which resulted from the use of the caustic potash and acetic acid caused a co-agulation which prevented the entrance of the vaccine organism; really the virus had been laid upon it and no result was obtained in some cases; in others it was rubbed into the parts and success resulted. When the speaker was a student many years ago his preceptor taught him to use a pocket-lancet and introduce the dried virus when no liquid virus could be obtained; the results then were identical with those now obtained from the use of the bovine or humanized virus. He was once so expert with the use of the lancet that he hesitated in abandoning it for the more recent methods.

Recently he had made 1455 vaccinations with one lot of virus and got only 100 failures; a large percentage of these no doubt was due to the willful removal of the virus by the patients. All the virus which he has obtained from the Health Department during the past two years or more was in 600 lots; in some of these he has had 75 per cent., in others, 100 per cent. successes—an excellent showing—so that he does not feel it necessary to experiment further to improve upon such results. He had had no bad results except from bad care after the vaccination. It was a rare thing for him to have any serious complications. Cases of erysipelas sometimes develop, but only in summer; on this account he advised that winter be chosen as the best time for vaccinations to be given.

Dr. W. H. PARK said that on account of the stronger virus being now furnished by the Health Department, too large a space denuded resulted in bad arms; good results always follow denuding small areas. Few physicians read carefully the directions which accompany the virus; if they did read them carefully the large sores on the arms would not appear so often.

Dr. F. S. FIELDER said that a good vaccination did not leave the typical scar of the older writers. Immunity lasts different lengths of time in different children. He gave a practical point in case of epidemics that, no matter if vaccination had been successfully done within six months, the child should again be vaccinated. In reference to the bloodless scarification with the needle he found it rather difficult to make an adequate scarification without drawing some blood. In the Health Department those have the largest percentages of successful cases who go deeply into the tissues and make a thorough injection of the virus. The vaccin now manufactured by the Health Department he considered very good and he also cautioned against the making of too large a denudation.

ABSTRACTS

TUBERCULOSIS OF THE TESTICLE.

M. **Felizet**, in a paper before La Société de Chirurgie, held that in the child tuberculosis of the testicle is met with especially in early childhood. Of 58 cases observed in his service, few of them were over 7 years old. He has never seen the testicle attacked when the epididymis remained healthy. Sometimes the lesion is limited to the latter. The cord may be involved, but this seldom occurs. More exceptional still is tuberculosis of the prostate, seminal vesicles, or bladder.

The clinical varieties differ in the adult and the child. In the latter hydrocele is rare and the progress often rapid. This is due to the embryonic state of the tissues which do not oppose the invasion of the bacilli. Generalization may occur by either the spermatic vessels or the ileo-inguinal lymphatics. It may be very rapid and produce cachexia. He has seen a child, 3 years old, for whom the parents had refused castration, die of meningitis six weeks after the beginning of tuberculosis of the testicle.

From the point of view of treatment, three cases may be considered. When the testicle is free in the tunica vaginalis the treatment is of a medical nature, or iodine injections may be used in addition. If the testicle is adherent to the scrotum, and if it threatens to break, we should hasten to open it, to curette and cauterize it, so as to leave no diseased tissue. When suppuration is added to a bad general condition, castration should be done without loss of time. It is the only means of checking the infection. Sometimes it is surprising to see how much the general condition improves after this operation. On the whole, in children, the indication for castration depends more on the general health than the local condition. In the case of these little patients it is often the only way to save life.—(*Revue Mensuelle des Maladies de l'Enfance*, 1899, xvii, 286).

INTERMITTENT ALBUMINURIA OF ADOLESCENTS.

M. A. **Pribram**, of Prague (*Revue Mensuelle des Maladies de l'Enfance*, 1899, xvii, 279), who has studied fifteen cases of intermittent albuminuria of adolescents, states that the transitory albuminuria is generally observed in patients of anemic aspect with moderate impoverishment of the blood in leucocytes and with marked diminution in hemoglobin. That it occurs especially during the period of rapid growth, and that it is accompanied quite often with some increase in the size of the hands and feet which disappears with the affection. This albuminuria, which always appears after standing or movements of the lower extremities, ceases quickly under the influence of rest in bed, and it is accompanied by increase in density of the urine, as well as by a notable excretion of nitrate of urea and chloride of potassium. Appearing sometimes in the morning with spermatozoa, or with a desquamation of vulvar epithelium and other premenstrual signs during the period of puberty, this albuminuria is always characterized on using Esbach's reaction by the formation of flocculent tufts, composed of little crystalized masses in which analysis shows about 50 per cent. of picrate of potash and 25 per cent. of nitrate of sodium, also smaller quantities of picrate of ammonia and different organic substances.

This characteristic peculiarity that is not found in any other affection necessitates the employment of some other method than that of Esbach to determine the albumin, which reaches about 5 per 1,000.

The kind of food does not exercise any influence on the appearance of albumin and other symptoms. It is to be remarked that during the course of and convalescence from various intermittent infectious diseases, albuminuria is not manifested during confinement to bed. The best treatment of this trouble is confinement to bed, pursued systematically.

MENINGITIS.

JAMES BARR (*Lancet*, 1899, No. 2029, 1401) in an address before the Birkenhead Medical Society, says in regard to diagnosis:

It might be supposed that a disease with such pronounced symptoms as meningitis would be always easily recognized, but such is not the case, as many of the most prominent cerebral symptoms are common to this and many other acute diseases. In meningitis the classical symptoms, headache and vomiting, have in my opinion led to more failures to recognize this disease than to success in its early diagnosis, because these symptoms are frequently not more marked here than in typhoid and several other specific fevers. The subjective phenomenon, headache, has been so placed in the forefront by text-book authors that the medical attendant always expects to see it, and so I may say he could if he would only employ his own powers of observation rather than those of the patient. But because the patient is not shouting "Oh! my head," and writhing in agony the onlooker thinks the headache cannot be that of the textbooks. The patient is really too ill to complain; he knows that the noise of his own voice as well as that of his questioner aggravates his suffering. When a child placidly wants your sympathy for a bad headache you may feel confident that it is not due to meningitis. Vomiting is not always an obtrusive symptom; it is explosive, occurs after food and without any nausea. The patient has a poor appetite, takes little or no food, and so there may not be much vomiting. Among the other early signs may be mentioned moderate pyrexia, delirium, stupor, occasionally general convulsions, irregularity of pupils, retraction of the head, retention of urine, etc. One of the earliest and most persistent symptoms, especially in meningitis of the convexity, is general hyperalgesia; so that when you firmly grasp a limb the patient winces. There is intolerance of light and sound. It has been stated by Gowers that lesions of the cranial nerves are among the most definite and conclusive signs of the disease; but if you wait in most cases for the appearance of such signs before beginning a definite line of treatment, you will have a high mortality. This is a disease which no line of treatment will rapidly abort; and if you recognize the nature of the disease at an early stage, you will have plenty of opportunities of confirming your diagnosis. We have previously referred to the various symptoms according to the site of the disease. We can surmise the nature of the disease from the cause. Purulent meningitis is associated with middle ear disease, necrosis of bone, abscess, septicemia, and frequently cerebro-spinal meningitis. Simple or plastic meningitis may be connected with pneumonia, rheumatism, or some of the specific diseases. Tuberculous meningitis is most common in children under 10 years, but may occur in adults, especially in association with tuberculous disease of the lungs, up to 40 years of age; after this period it is very rare.

Meningitis is frequently mistaken for typhoid fever, but in the early stages at least there should be no difficulty in differentiating the two diseases. In typhoid fever the patient is dull, apathetic, and listless; and although there may be violent headaches, and later on marked delirium, yet the patient is not specially sensitive to external impressions; there is no intolerance of light or sound, no hyperalgesia, he makes no attempt to remove the sordes from his teeth or lips, and the dried secretion in his nose remains unheeded. In meningitis, and especially in meningitis of the convexity, among the early symptoms are marked general hyperalgesia and augmentation in all the reflexes. The patient is irritable and restless, picks at his nose and lips, throws his arms about in an aimless manner, perhaps gets out of bed without knowing exactly why, roams about, returns again to bed. There is hyperalgesia so that he cannot bear to be handled, and generally intolerance of light and sound. The hyperalgesia is often well marked even in an advanced stage of tuberculous meningitis. The little patient may be lying apparently asleep, with eyes half open, but the slightest movement or handling makes him scream out with a piercing shriek. The elbow and wrist jerks are generally pronounced, and there may be well-marked ankle and knee clonus. At a later stage of the disease, if effusion has taken place into the ventricles and beneath the arachnoid, these signs may disappear. The chief characteristic of the deep reflexes is their great variability—absent or present one day and exaggerated the next. In typhoid fever, on the other hand, the deep reflexes are only exaggerated in severe cases and at a later stage of the disease.

In meningitis the temperature is very variable, frequently reaches a great height and is followed by a rapid fall, and as a rule it is more easily controlled than that of typhoid fever.

We can also examine the urine with Ehrlich's test and the blood for Widal's reaction, but in the latter test we can rarely expect any positive evidence before the fifth day of typhoid, and the diagnosis should be made before then.

Pneumonia of the apex might be mistaken for meningitis of the convexity, but a careful examination of the lungs, the respiration, and pulse will differentiate the two affections.

Influenza occasionally assumes a cerebral type, but the head symptoms quickly pass off and the real nature of the disease becomes apparent. The same may be said for many of the other specific diseases, such as typhus fever, measles, and scarlet fever.

In bilateral otitis interna there may be headache, delirium, vomiting, convulsions, vertigo, etc., but when the disease is not associated with meningitis the febrile process soon subsides, and there is no great emaciation, etc.

Meningitis has been mistaken for hysteria, but a careful observation of the temperature and other symptoms should readily serve to differentiate the two diseases.

Lumbar Puncture.—Since Quincke drew attention to the diagnostic importance of an examination of the cerebro-spinal fluid, lumbar puncture has been performed in a considerable number of cases, and not infrequently with a positive result. Among the organisms that may be found may be mentioned tubercle bacilli, the diplococcus intracellularis, streptococcus, Fraenkel's pneumococcus, and staphylococcus. With a positive result the diagnosis is established, but unfortunately in many cases of even purulent meningitis the fluid is perfectly limpid and free from pus and organisms. This is, however, what might be expected as the effusion is usually in the sub-arachnoid spaces, and therefore a negative result is of no value. Some have even claimed considerable therapeutic value for the operation, but the beneficial results seem to have been usually more imaginary than real. The inflammatory effusion for the greater part is in confined spaces, and not floating freely in the cerebro-spinal canal. Where there is an accumulation of inflammatory fluid in the ventricles of the brain, the foramen of Majendie is generally closed, and the fluid cannot escape into the general arachnoid cavity.

SYMPTOMS OF SINUS THROMBOSIS.

FRED. WHITING in an article on Infective Sinus Thrombosis (*Jour. Amer. Med. Assn.*, xxxiii, 1063), in speaking of its symptomatology says: The symptomatology of sinus thrombosis, as at present understood, is adequate when applied with discretion and discernment by intelligent practitioners to establish the diagnosis at an earlier moment than has hitherto been possible, and the recapitulation here will serve to emphasize those phenomena which may with impartiality be denominated the determining factors, and familiarity with which will insure our patients against the fatality of indecision and hazardous delay. When, therefore, a patient suffering with perulent otorrhea complains of severe hemicrania in connection with sudden increase or recent diminution of discharge, and simultaneously presents a degree of systemic disturbance not conformable with a tympanic or mastoid inflammation, we should be apprehensive of some form of infective intra-cranial invasion, which suspicion the subsequent appearance of one or more chills with high temparature and undue exhaustion should convert into positive conviction; with the accession now of repeated chills of varying degrees of intensity, from a sensation of chilliness only to a severe and protracted rigor, associated with rapid and excessive fluctuations of temperature, profuse and colliquative perspiration, rapid pulse and respiration and great prostration, there is depicted so faithful a portrayal of the salient features of infective sinus thrombosis that the existence of almost any of the local signs, if at all pronounced, would be accepted as absolute confirmation by even the most skeptic and exacting medical attendants. The appearance of the local symptoms may be anticipated in their chronological order, as follows: tenderness of the superior portion of the posterior cervical triangle, occipital edema (Griesinger), neuro-retinitis, tenderness along the course of the internal jugular vein, most marked and earliest elicited close beneath the angle of the jaw, edema of eyelids (Sterling), turgescence of the external jugu'ar vein of the opposite side on pressure (Gerhardt), and lastly, a cord-like delineation of the internal jugular of the corresponding side due to purulent phlebitis extending into the neck. One or several of the foregoing manifestations will be recognizable to a reasonably alert observer, and will supply the requisite corroborating testimony.

TYPHOID FEVER IN YOUNG CHILDREN WITH A REPORT OF THREE CASES WITH UNUSUAL COMPLICATIONS.

E. B. Montgomery, M.D., Quincy, Ill., forwards the following abstract of his paper read before the Missisippi Valley Medical Association, October 4, 1899:

After an extensive review of the literature of typhoid fever as occuring in infancy and childhood, including a mention of Stowell's tables collecting 85 cases in children under three years of age, the paper proceeds to the report of three cases, two of which occurred in the author's practice. The first case, in an infant of nine months, presented very marked cerebral symptoms, so that there was a very close simulation of tubercular meningitis, scarcely any of the usual signs and symptoms of this disease being absent. The patient had opisthotonos, cephalic cry, *tache meningitique*, and convulsions, along with a typical typhoid temperature record. With the decline of temperature the cerebral symptoms subsided, and convalescence was fairly established by the 33d day from the onset of the illness.

The second case occurring in a child three years and a half old developed a double parotitis about the 23d day, which ended in suppuration, both abscesses being freely incised and drained about the 28th day and convalescence being fairly established about the 35th day. The third case occurred in the practice of Dr. C. W. Rook, of Quincy, Ill., and has hitherto been unreported. The patient, a child of three years, developed an inflammation of the right submaxillary gland about the 17th day which ended in suppuration. This abscess was evacuated, and subsequently the parotid gland of the same side suppurated and resulted in the death of the patient on the 33d day of the illness. In a review of the literature of the medical and surgical complications and sequels of typhoid feve the meningeal and parotid involvements were shown to be tolerably rare, and the submaxillary complication extremely so, only four other cases being found recorded in a very extensive search.

THE SEMEIOLOGY OF THE ATTITUDE AND MOTOR STATE IN CHILDREN.

Kelley (*Cleveland Med. Gaz.*, 1899, xiv, 633), in an interesting article, after noting the difficulties presented in forming correct diagnosis in children, calls particular attention to what may be learned from attitude in disease. He says:

If you are called to see a child agitated by a general convulsion, you immediately run over in your mind the classification of convulsions and look for other symptoms which will enable you to determine whether it is idiopathic, symptomatic, sympathetic, toxic or thermic. On the other hand, if you find him in a state of general muscular relaxation you know that he has either brain disease or extreme prostration.

When we find that the patient insists on sitting up or reclining against high pillows, we at once suspect heart disease, although it might be asthma or pneumonia, or a double pleurisy with effusion, or even tonsillitis or bronchitis.

When a patient with high temperature and muscular and mental apathy resumes his muscular activity, you know that he is better otherwise. As temperature goes down temper comes up, and with it greater muscular activity. The little patient reaches for and plays with toys which before failed to attract his attention, or he seizes and throws them away, and reaches for something else or tries to go after it. He is better.

When a child which has been sick for some time begins to toss about on the bed, constantly changing position and at rest nowhere, it is a semeion of evil. In the eruptive fevers it may mean the onset of some complication. In croup or other disease of the respiratory tract it indicates very grave air-hunger. If there has been hemorrhage it shows extreme anemia. In all cases it heralds the approach of nervous exhaustion.

You are all familiar with the little sufferer from whooping-cough, and have seen him grasp his mother's clothing or chair or any object near, as soon as he felt the approach of a paroxysm of cough, and hold it fast until the paroxysm passed. Even in severe pneumonia or bronchitis the child does not execute this maneuver, and indeed, in that condition which clinically most resembles whooping-cough, viz.: enlargement of the tracheo bronchial glands, I have no recollection of ever seeing this apprehension of the approaching kink of coughing and preparation for it by running to a support, and holding on.

If the child lies on the back and cries whenever touched or moved, one thinks of pleurisy, inflammatory rheumatism, peritonitis, scurvy, pseudoparalysis, extreme rickets, and it is more likely to be one of these than any lesion of the nervous system.

In the child lying on his back with his legs drawn up we suspect peritonitis; but it might be a distended bladder, or hernia. If he draws up his legs to lash out again and twist and turn himself, he likely has irritation and pain, but not inflammation.

An attitude on the side, with the extremities in the position of the fetus *in utero*, but with the head retracted, is often seen in the late stages of tubercular meningitis or other intracranial inflammation.

If the child is lying on his face, or is kneeling with his face in the pillow or persistently toward the wall, we suspect inflammation of the eyes or of the brain or its membranes.

If the child persists in nursing from the breast or in lying only on one side, we look for pleurisy or pneumonia in the lower side. But if the pleura becomes distended with fluid, the child may turn and prefer the dorsal decubitus, though perhaps still turning the head toward the affected side.

When the patient with empyema, or on whom thoracotomy or resection has been performed, refuses to lie on the affected side it is because the drainage tube is too long or the dressing pads about it are not properly placed, or the pillows are so arranged that the wound is drawn asunder.

The retracted head we are all familiar with as a symptom of meningitis, but it may accompany cerebellar tumor, diphtheria, pneumonia, or even typhoid fever.

With caries of the cervical spine and retropharyngeal abscess, also, there may be rigidity of the cervical muscles. The opposite of this—the head lolling forward on the breast, is seen in paralysis following diphtheria.

Opisthotonos in spinal meningitis or tetanus is well known, but one should bear in mind the possibility of strychnin poisoning.

It is not common to see in childhood hemiplegia with its lack of knee action and its dragging or circumduction of the lower extremities in walking. The high-stepper with locomotor ataxia is never a child; but the drunken reel or uncertain walk of cerebellar diseases may be seen in childhood. The shuffling walk and scurrying run of the idiot or imbecile child are recognizable on sight. We may find one or more extremities more or less useless, in fact paralyzed, and the questions arise: Is it due to some injury at birth or did it come after birth? Is it peripheral, spinal, or cerebral in origin?

If the paralyzed limb is flaccid the trouble is either peripheral or spinal. If it is spastic or rigid we expect to find other evidence of its cerebral origin. But a rigid muscle or set of muscles is not always due to nervous disease, either local or central, but is nature's effort to immobilize inflamed tissues adjacent, or, as we say, results from reflex action. Witness the board-like abdominal muscles in peritonitis and the muscular rigidity which causes the thigh and pelvis to move as one in morbus coxarius.

If a single arm appears paralyzed in a new-born infant, very likely it is a birth-palsy; but before concluding that it is due to injury of a nerve alone it is well to examine closely for fracture of a clavicle or separation of the upper epiphysis of the humerus, which may either simulate paralysis or be associated with it.

If an older child refuses to use his hand or forearm, and we find nothing wrong with them we may discover that his collar-bone is broken. Or he will not put his foot to the floor and after a while it is found that he has psoas abscess, pericecal inflammation, ureteral calculus or a hernia.

THE VALUE OF THE TUBERCULIN TEST IN THE DIAGNOSIS OF TUBERCULOSIS.

E. O. Otis (*Jour. Amer. Med. Assn.*, 1899, xxxiii, 1076) in an article on this subject concludes:

1. The tuberculin test indicates early tuberculosis by a general reaction before it can be detected by other methods except the X-ray, in the large majority of cases, with a dose of from 5 to 10 mg. of Koch's original tuberculin.
2. No injurious results occur from the use of tuberculin in these doses.
3. Proved tuberculosis in a more or less advanced stage may fail to give a general reaction from doses of from 10 to 12 mg.
4. Syphilis gives a reaction in an undetermined proportion of cases.
5. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction.
6. The reaction may be deferred from six to twenty-four hours.

As rules to be observed in making the test:

1. Always use the same tuberculin and of a standard strength.
2. Use aseptic precautions in giving the injection.
3. Make the injection deep into the muscles of the back, arm or leg.
4. Keep a two-, three-, or four-hourly chart of the temperature if possible, beginning twenty-four hours before the injection.
5. Allow several days to elapse before repeating the test.
6. In early cases depend on the general reaction; in late cases, if the general reaction fails, carefully look for the local.

THE PATHOLOGY OF MILK.

G. Leslie Eastes (*The British Medical Journal*, 1899, No. 2028, 1341), in recording the results of the examination of 186 samples of milk, summarizes with the following:

General Statistics.—Of 186 milks examined, tubercle bacilli were present in 11, and doubtfully in 2 others. One was doubtful because only one bacillus, morphologically correct, was found, the other because though of the right color, the beading was not apparent in any except one. and in that only imperfectly. In 47 there was pus, and muco-pus was present in another 77. Both of these objectionable features were absent in 51 cases, and the question was undecided in the other 11. Blood was noted in 24 samples, absent in 77, and probably absent in 85. Streptococci were found in 106 cases, absent in 53, and undetermined in 27. Colostrum corpuscles were detected in 16 specimens. The percentages in the mixed milks work out as follows: 5.3 per cent. contained tubercle bacilli, 30 per cent. contained pus, and 48.7 per cent. muco-pus, these varieties being therefore present in 78.7 per cent. of all mixed milks examined. It was absent in only 15 per cent. and doubtful in the other 6.3 per cent. Streptococci were found in 75.2 per cent. of the samples, absent in 15 per cent., and doubtful in the remaining 9.8 per cent.

General Conclusions.—Milk which contains pus or muco-pus and streptococci is unfit for human consumption, but unfortunately, according to my figures, this would entail condemning 80 per cent. of the samples examined. No farmer, however, dreams of allowing a cow with an inflamed udder to suckle a calf. Why then should he be permitted to sell such contaminated milk for human consumption? Should such milks also contain tubercle bacilli, they should be unhesitatingly condemned as unfit for consumption in any form, for example, as butter, cheese, etc. It is his experience that milk derived from pasture-fed cows is less likely to be contaminated than that from cows which are stall-fed. Nor, of course, is this to be wondered at. The condition of mixed milk should be made more widely known, the conscience of the farmer aroused, so that he may of his own accord isolate those cows suffering from inflamed udders, and not permit their milk to be mixed with that of healthy cows—a practice which in the end would repay the farmer, as the risk of infecting other cows through the milker, and this is, of course, a very real risk, would thereby be minimized.

HOW TO RECOGNIZE LEAD-POISONING IN CHILDREN.

A. JEFFERIS TURNER (*Australasian Med. Gazette*, 1899, xviii, 425) says: The discovery of lead in the urine is a task only to be undertaken by the expert chemist. When found, it is of the highest value in confirming the diagnosis. But lead appears to be only *occasionally* present in the urine of these cases, and then only, as a rule, in extremely minute proportion. Hence a negative result of a single or even several chemical examinations does not necessarily invalidate the diagnosis of any individual case. Of course, when a series of cases occur, lead ought to be found in the urine of *some* of them. When the teeth are foul, and decomposing matter collects in the sulci between the teeth and the gum in a patient whose blood contains traces of lead, the sulphide of this metal is deposited inside the gum at its extreme edge. This constitutes the so-called "blue line," a name which is very apt to mislead. A well-marked line, such as would attract cursory observation, is very rare in children. The discoloration commences as minute blackish dots, in many cases scarcely distinguishable without the aid of a lens, and *only opposite certain teeth.* One tooth only may be affected, more often several teeth, but seldom more than a few. This appearance is of very high diagnostic value.

When necrosis of the jaw or suppuration about the root of a tooth is present in a case of lead-poisoning, there may be extensive blackish discoloration, not only of the gums, but of the mucous membrane of the inner surface of the lips. It is important to remember that there may be no trace of discoloration of the edges of the gums in perfectly typical cases, and that in children this is a frequent occurrence. The absence of any changes in the gums is of no value whatever in negativing a diagnosis of lead-poisoning. This diagnosis must then rest on the clinical examination of the patient's symptoms.

These may be divided into four groups:

1. *Paralyses.*—The first paralytic symptom is dropping of the toes during walking. When this becomes well marked the child adopts a high-stepping gait to raise its toes from the ground. The muscles paralysed are the tibialis anticus and the extensor longus digitorum Less commonly the peronei are paralysed. When the paralysis is of long standing there is a secondary contracture of the calf muscles causing talipes equinus.

In some of the cases the arms become also affected, causing wrist-drop. The digital extensors are first affected, the car al extensors usually escape. The supinator longus is not affected. Unlike what is the rule in adults, *wrist-drop is not the most common paralysis from lead in childhood.* In those cases in which both wrist-drop and foot-drop occur, the feet have been invariably in my experience the first to suffer, and the last to recover.

In severe cases there is paresis and wasting of the small muscles of the thumb, especially the abductor, opponens, and flexor brevis, less commonly of the adductor pollicis and interossei.

It is hardly necessary to say that the paralyses are bilateral.

2. *Colic and Muscular Pains.*—Attacks of colic are not uncommon, but do not present such a typical aspect as, judging from published descriptions, they do in the adult. During the attack there is usually constipation, but this is not invariable. Sometimes it is accompanied by vomiting. The most characteristic feature of the attacks is their periodicity. A not uncommon history is that the child suffers from "bilious attacks" every month or six weeks, being perfectly well in the intervals. These "bilious attacks" will be found, on questioning, to consist of abdominal pain, and vomiting, usually accompanied by constipation.

Pains in the limbs, especially in the legs, are a common and very characteristic symptom. They keep the child awake at night, crying and asking to have his legs rubbed. They may accompany the abdominal attacks, and, like them, tend to periodicity; they are characteristic of the period before paralyses develop.

The more severe attacks of pain are accompanied by obvious cramp, particularly of the calf-muscles. In the worst cases there is even opisthotonos, the erectores spinæ being in a state of cramp. These attacks are very painful.

3. *Eclamptic Conditions.*—Eclampsia may occur in the early or the late stages. The attacks present nothing peculiar except that they are usually severe, and not infrequently fatal. The diagnosis, in the absence of a good clinical history, may be impossible except by chemical

analysis of the urine; but careful questioning may often elicit the fact that the child had previously suffered from periodical attacks of pain in the abdomen and legs.

4. *Ocular Neuritis, Spurious Meningitis.*—A typical case presents the following combination of symptoms:—The child is brought because it complains of headache, perhaps accompanied by vomiting. It is observed to have a slight squint, which is found to depend on paresis of one, or perhaps both external recti. Optic neuritis, often intense, is found to be present. In such a case the first diagnosis to be considered is lead-poisoning; the prognosis is favorable as regards life, but doubtful as regards vision. The majority, under hospital treatment, recover completely, but in not a few optic atrophy and blindness have ensued.

In a minority of cases other ocular muscles are involved in addition to the external recti, and in these cases the prognosis as regards vision is very unfavorable.

In the more severe cases there may be intense mental irritability, retraction of the head, rapid wasting, or rarely, convulsions. These cases are usually diagnosed as meningitis, but notwithstanding, they frequently recover, though often with loss of vision.

The milder cases are more likely to be regarded as cases of cerebral tumor until their favorable course renders this diagnosis untenable.

PSEUDO-BULBAR PARALYSIS IN CHILDHOOD.

KARMAN (*Geyermekgyogyaszat*. 1899, No. 1; *Der Kinderarzt*, 1899, X, 86) maintains truly that this disease is very frequently mistaken for bulbar paralysis, also known under the name of paralysis glosso-laryngo-labialis. It belongs to the rarest diseases of childhood. It has been found in the few autopsies published that the source of this infection lies in apoplexies due to atheromatous changes of the cerebral vessels. Occasionally the first symptoms are noticed during convalescence from some grave disease; syphilis and sclerosis are also cited as etiological factors. The clinical picture of pseudo-bulbar paralysis is well marked; the symptoms make their appearance suddenly and violently after an apoplexy, the lips and the tongue become paralyzed, the facialis becomes paretic, hemiplegia may even occur. The reflexes are retained, the paralyzed muscles do not atrophy, the reaction of degeneration is also absent, and the vagus is never involved. An improvement and even a perfect cure of a pseudo-bulbar paralysis is not uncommon, which cannot be said of bulbar paralysis. Kàrmán is conversant with two cases of this affection. Both were inmates of the Stephanie-Kinderspital. The one described by him relates to a 4-year-old girl, who was admitted on account of a constant salivation. Having been well up to 5 months of age the child suddenly became ill with a fever, had eclamptic convulsions, and was unable to nurse. After the convulsions had ceased the mother noticed that the child could only with difficulty take the breast, did not swallow well, and that the milk flowed from the mouth.—The facial expression, though intelligence is retained, is stupid; the naso-labial furrows on both sides are lost, more so on the right than on the left side; the lower lip protrudes forward and downward, so that the mouth is always open; the tongue is of normal size; its movements in every direction are, however, curtailed, and it cannot be protruded. The sulcus mentalis is somewhat indistinct, the reflexes of the facial muscles are retained, the power of the muscles of mastication somewhat lowered, as also the sensibility of the mucous membranes of the mouth and nose. The sense of taste is nearly totally lost; electrical reaction is normal everywhere. The saliva is continually flowing from the mouth, and the manner of eating is characteristic. The child places very small pieces in its mouth with the fingers and pushes them deeply into the oral cavity as far as the velum palati, and finally is able to swallow them after repeated laborious movements of deglutition. Drinking is even more painful, as part of the fluid again flows from the mouth, part is regurgitated through the nasal orifices. Speech is unintelligible, all letters being dropped in the formation of which the tongue and lips are employed. As the child was perfectly healthy up to 5 months of age, Kàrmán excludes congenital brain disease and also apoplexy, for whose occurrence all causes, as trauma, pertussis, embolus, etc., are absent, and believes the cause of the affection to be found in some encephalitic process.

A CONTRIBUTION TO THE KNOWLEDGE OF PEMPHIGUS NEONATORUM ACUTUS.

Bernstein (*Monatshefte für Practische Dermatologie*, 1899, xxviii, 1) *Case I.*—A child, 3 years of age, was brought to Bernstein, July 26, 1897, which had already developed bullae on the skin, two weeks before. The baby is a well nourished male, presenting a panniculus adiposus corresponding to its age. The whole surface of the body is red. The reddened but not infiltrated skin presents isolated bullae distributed over the whole body, of a circular shape, reaching the size of a quarter, and filled to tension. Aside from this comparatively small number of vesicles there are present grouped together, numerous spots, of a circular form, from the size of a penny to that of a quarter, of a brownish color, covered by a thin layer of epidermis which is raised from the substratum, and in many instances ruptured, evidently representing dried vesicles. The palm of the hand and plantar surface of the foot are not involved. By August 4th the eruption had healed under an indifferent treatment (bran-baths and powder) and the skin had become pale. The mother, when making her first visit, had declared that two other children had also become affected a few days ago. The whole family was therefore put under medical supervision, and a fourth child and also the mother subsequently became affected. Namely:

Case II.—Anton St., 3 years of age, presented twenty to thirty circular spots ranging from the size of a penny to a fifty-cent piece, covered with a brownish crust and distributed over the whole body; there were no vesicles however. On August 8th Bernstein found sixteen crusts of this character on the chest and abdomen, twenty on the back and neck, and eight on the buttocks. These crusts were generally surrounded by a narrow red zone. Between the crusts on the back and neck there were present in this case, although few in number, small vesicles filled with a yellowish fluid situated on a base which was not infiltrated or reddened. One particularly well-formed vesicle, as regards size, semi-globular shape and fullness, was situated below the right patella, its outlines at once passing into the sound skin. A general redness of the body was not present.

Case III.—Gertrude St., 4 years old, presented a single circular dark brown crust on July 27th of the size of a fifty-cent piece, surrounded by a red zone, and having its seat on the radial side of the left forearm. This is still present on August 4th. Other crusts of the same nature are now also visible, namely, two on the left elbow, and two each on the back, the right axilla, and on the left angle of the mouth. There are seen besides on the abdominal parietes and on the left leg limpid, round vesicles from the size of a pin-head to that of a lentil or a penny which pass directly into healthy skin; of these there are about eight in number altogether.

Case IV.—Martha St., 4 years old, on August 12th presented crusts below the knee and on the mons veneris, and two large ones below the buttock. The crusts were analogous in form, size, and surroundings, to those already described.

Case V.—The mother presented on August 12th crusts at the left angle of the mouth and the fourth finger of the left hand. The latter was observed by the patient as a vesicle from the beginning. No other efflorescences made their appearance in this patient. Treatment consisted in Cases II, III and IV in baths of permanganate of potash solution. Several months were required for a perfect cure. The contents of the vesicle situated below the knee in the second case was inoculated by Bernstein on the flexor surface of his own arm in two places; the result was, however, negative.

What was the disease in these cases? The infant, with its general redness of the skin, with vesicles tensely filled, semiglobular, of the size of a fifty-cent piece, without an especial predilection of locality, having their seat on a non-infiltrated base, presented the picture of pemphigus acutus neonatorum; the absence of the eruption from the soles of the feet and the palm of the hand, its healing under an indifferent treatment, with the absence of other symptoms of hereditary syphilis, excluded its syphilitic nature. We still have to consider impetigo contagiosa, urticaria bullosa, and varicella. In all these diseases the vesicles are, however, situated on an infiltrated skin, are not so tense and do not attain the size that these did; neither the peculiar primary efflorescence of varicella, a papule the size of a lentil with vesicles the size of a pin-head in its center, nor even a wheal as in urticaria bullosa, nor the localization peculiar to impetigo contagiosa, was met with. These three affections therefore had also to be excluded in the other patients; wherever fresh efflorescences were found they presented the qualities of a pemphigus vesicle, and compelled Bernstein to look on the contagion of the infantile pemphigus as the etiological factor. This proved to be one of those rare cases where infantile pemphigus was carried over to older individuals, although the pathological picture deviated somewhat; absence of a general redness of the skin, the small number of efflorescences, the heavier crusts, and the long duration were unusual. The negative result of inoculation does not speak against its contagious quality, but only shows that we are as yet not fully acquainted with the conditions under which the contagion thrives.

PEDIATRICS

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ORIGINAL ARTICLES

REPORT ON THE CAUSE AND PREVENTION OF INFANT MORTALITY.

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(Concluded from February 15th isue.)

Skimmed and Separated Milk.—The sale of skimmed and separated milk should be permitted, as they possess some food value at low cost, but their existence necessitates scrutiny to insure the public from fraud.

By legal decision and statutory requirement in some cities the two are differentiated and made standard, the one, "skimmed," representing an article from which cream has been removed in part, it retaining 6 per cent. by volume of cream and 2½ per cent. by weight of fat; the other, "separated," being practically a dairy refuse with total fat extraction, a vast distinction.

Protection from substitution is obtained by only permiting its sale from a different and specially colored or shaped can (lettering soon becoming obliterated by use), in order that purchasers may, at a glance, know the character of the contents.

Milk Standards.—In order to secure convictions for selling inferior or impoverished milk a certain average standard is prescribed.

The matter being of importance to the consumers as well as producers and dealers, we quote the following suggestions for testing milk as published by the New York City Department of Health :

"*By the Cream Gauge.*—Fill the cream gauge one-half full with water at a temperature of 120° F., to which have been added a few drops of a strong solution of washing soda. Then, after stirring up the contents of the can thoroughly, fill the gauge to the top mark with the milk. Shake well and place in very cold water (say 40° F.). In about thirty minutes the cream will have risen and the percentage can be read off, remembering that the result observed must be multiplied by two, as one-half (½) water and one-half (½) milk was used. Example: 8 per cent. of cream was observed by this test; multiplying this by 2 would make 16 per cent., which would be the true amount of cream contained in milk by this test. Good milk should show by this test 14 to 18 per cent. of cream.

"*By the Lactometer.*—To test for water, the lactometer can be used as follows: Stir the milk to be tested so that a fair sample can be taken. Warm or cool enough milk to 60° F. to fill the testing cylinder. Insert the lactometer in the milk in the testing cylinder, being careful not to wet that part of the stem above the milk, and observe where it floats. Pure milk will not fall below the 100° mark on the lactometer at 60° temperature. It must be remembered that skimming the milk will make the lactometer float higher and the addition of water or cream may make it sink lower than 100°, but if the appearance of the milk upon the lactometer is noted, no one can easily make a mistake. If the lactometer floats below 100° and the milk looks thin, water has been added; if it floats above 100° and the milk looks thin, it may be skimmed, or skimmed and watered. But if it floats about 100° and looks creamy and yellow and sticks to the glass, you can be reasonably sure that it is pure. Good average milk will indicate 109° on the lactometer at a temperature of 60° F., and show about 14 per cent. of cream by the cream test given above."

The rules adopted by the Philadelphia Board of Health provide all milk dealers with a standard lactometer and thermometer and test all milk received for sale by them. Instructions in the manner of testing are given by the inspectors. We quote the following from the report of said city:

"The test used by the Philadelphia inspectors of milk in their daily examination is the lactometer or specific gravity test. The lactometer is an instrument of the hydrometer class and is graduated from 0 to 130, the former representing the gravity of water, which is 1 or 1.00, and the latter 1.03770 specific gravity. The figures on the stem of the instrument are arbitrary, but their equivalents may be learned by referring to the table.

"Innumerable tests by eminent chemists fix the lowest gravity of normal milk at 1.02900, or 100 on the lactometer stem. Where the result by the lactometer is accepted as final and conclusive, this may be satisfactory, but it is not so in this city. Gravimetric analysis only determines conclusively the quality of the milk. At best all other methods are approximations and consequently unreliable as evidence.

"By way of illustration, suppose a milk shows 1.03190 specific gravity, or 110 on the lactometer, and sufficient water is added to lower the gravity to 1.02900 or 100 lactometer indication. Surely it would not be unadulterated milk, although within the prescribed limit of safety.

"The experience of daily inspections and analysis proves that the fair average of the milk of a healthy and reasonably well fed herd of grade or domestic cows is 1.03190 specific gravity or 110 lactometer reading.

"Low gravity is due to an excess of cream or water. No one familiar with milk, it may be presumed, could fail to discriminate between these causes. The removal of cream raises the gravity of milk according to the care exercised in skimming and the quantity removed. The range on the lactometer for skimmed milk is from 115 to 130. But normal milk is frequently met with having a gravity between these limits; therefore when milk with high gravity is examined it should be carefully scrutinized to determine by the viscosity or body whether it is skimmed or otherwise.

"Water or skimming converts milk from a viscous to a comparatively thin or almost translucent liquid. For the purpose of concealing the addition of water or the abstraction of cream coloring matter is sometimes used. A chemical test is necessary to establish the presence and character of coloring matter. An unusual appearance in milk at any other than pasture seasons may safely be ascribed to artificial coloring.

"A simple and convenient method to test milk suspected of skimming is by the use of the creamometer. This is a glass cylinder graduated by lines from 0 to 30, each line indicating 1 per centum. The tube is filled to the 0 line with the milk and set away for twenty-four hours, when the percentum of cream may be read off by lines, reading downward. The raising of cream is facilitated by warming the milk to about 80° F., after which it should be rapidly cooled. Another method is to fill the vessel to the 0 line with equal portions of milk and water.

"In case water is added, as suggested, the indicated percentage is to be multiplied by 2. It should be borne in mind that a 'heavy-bodied' milk presents a greater resistance to the cream rising than a light-bodied; hence it is that watered milk creams more rapidly than the unwatered article. Under the microscope the fat globules may be seen floating in an emulsion of caseine, milk sugar, salts or mineral matter, and watery fluid or whey. These globules vary in size from $\frac{1}{10,000}$ to $\frac{1}{25,000}$ of an inch in diameter, and are so small that they lack sufficient buoyancy to reach the surface at all.

"Centrifugal force, even as exhibited in the separator, can not expel all those minute bodies from the milk, so that from 0.1 to 0.5 per centum of fat may be found in the residue of the separator. Seeing that centrifugal force cannot bring all of the cream to the surface it is evident that the test suggested is only an approximation. It is sufficiently accurate, however, for the purpose."

Adulterations.—For the purpose of defining adulterated milk, we have drawn upon several sources, and submit the term as meaning the following:

1st. Milk containing less than 12 per cent. of milk solids.

2d. Milk containing more than 88 per cent. of water or fluids.

3d. Milk containing less than 3 per cent. of fats.

4th. Milk drawn from cows within fifteen days before or within five days after parturition.

5th. Milk drawn from animals fed on distillery waste or any substance in a state of fermentation or putrefaction, or any unhealthy food.

6th. Milk drawn from cows kept in a crowded or unhealthy or unsanitary condition, or from cows affected with any form of disease, or from cows which are supplied with impure or unwholesome water.

7th. Milk from which any part of the cream has been removed.

8th. Milk which has been diluted with water or with any other fluid, or to which has been added any foreign substance whatever.

9th. Milk drawn from cows or by milkers that are themselves in a condition of filth and uncleanliness.

10th. Any milk which is shown by analysis to contain any substances of any character whatsoever not natural or normal constituents of milk, or to have been deprived, wholly or in part, of any constituent naturally or normally contained in milk.

Condemnation.—All milk found to be adulterated, according to the previous definition, should be condemned by the inspector and immediately destroyed. Any other method of procedure is unsafe and unsatisfactory.

Prosecutions and Penalties.—Prosecutions for violations of milk laws should be vigorous and unremitting, and the penalties should be so heavy as to deter any person from assuming even the remotest risk.

It has been held by a Pennsylvania Court that "Ignorance of the character and quality of the article is no defense. The defendant is bound to know that the character of the article which he sells is of a particular quality and kind."

Philadelphia has sentenced offenders against milk laws to imprisonment for six months, in addition to a heavy fine.

The laws of Massachusetts, as well as those of several cities, require that the name and place of business of every person convicted of selling adulterated milk, or of having the same in his possession with intent to sell, be published in two newspapers in the County in which the offense was committed.

It is suggested that if the dealer would test the milk before removal to the city depot and immediately re-ship it to the farmer if found below standard, the producer will soon furnish a better article.

Milk Preservatives.—Boracic acid, salicylic acid, salicylate of soda and a weak solution of formaldehyde are among the principle ingredients employed for preserving milk. Treating milk in this manner clearly constitutes an adulteration, and should be vigorously prosecuted.

Coloring Milk.—The substance chiefly used for coloring milk and cream, as well as butter, is annatto. Its use is to conceal watering or the abstraction of cream and to give to milk or cream an appearance which is unreal.

Irrespective of other consideration, it is a deception and a fraud upon the consumer.

In his reply to the Boston Health Department, Dr. Davenport gives the result of a microscopic examination of paste annatto, or of the alkaline solution of it as employed for coloring milk:

"The investigation showed the presence of innumerable bacteria, a necessary result of the putrefactive changes through which the coloring matter has passed. It is not surprising, therefore, that milk to which even the smallest quantity of annatto coloring has been added should sour much more rapidly than pure milk, a fact which has long been known to milkmen, and many times acknowledged by milkmen of whom inquiries were made."

Thompson, in his Chemistry of Organic Bodies, describes annatto as the fruit or coccus of a plant containing small red seed, from which the coloring matter is extracted through a sort of putrid fermentation.

It has no taste but a disagreeable smell resembling that of putrid urine, which smell he says is not natural, but is communicated to it by the addition of urine, in order to keep it moist and improve its color.

Condensed Milk.—In some places condensed milk is permitted to be sold in other than original packages. This is a practice which easily admits of substitution for dairy milk. In our opinion the sale of condensed milk should be permitted in original packages only, the packages being properly labeled with the name and address of the maker.

This milk should be subject to the same restrictions and inspections as dairy milk.

Permits and Licenses.—This report covers in detail the "License System" for milk protection.

This system, which includes inspection, scrutiny, detection and punishment, is the best yet devised for the purpose. It further simplifies scrutiny and localization from source to consumer, deters from fraud and detects infection.

In conclusion, the attitude toward the milk industry should be both State and Municipal control, operating in harmony under similar principles with an identical object in view, forming a system of protection from dairy to consumer.

The State should exercise its control untilthe milk passes within the Municipal limits and authority, and should include every feature and detail in all aspects of protective sanitation. These features include briefly:

1. The license system, the fee, periodic systematic inspections with revoking power and penalties for dereliction.

2. The inspection system should include inspection of herds (tuberculin tests), food, animal care.

3. Demanding sanitary environment and buildings, correcting existing evils, and examination and approval of plans, pending erection of new ones, which should comply with a standard of sanitary construction, with especial reference to specific requirements of the business, viz.: separate milking and stabling quarters, proper cubic air-space, non-absorbent material.

4. Scrutiny of water supply, standard feeding, health of employees, hygienic care of utensils and cans, cleanliness and protection in milking.

5. Definite rules governing all procedures, particularly as to the cooling process, preparation for the market, and the relation to the varying seasons.

6. The differentiation of the various characters of milk by differently colored or shaped cans, which are properly labeled with date of milking and time of shipment.

7. Prohibition of milk preservatives and coloring agents;

of adulteration and of the marketing of milk from diseased, sick, or parturient cows; of the use of disinfectants, their necessity implying bad sanitation.

8. The prohibition particularly of refuse or swill food upon any dairy premises; of any food by reason of decomposition or fermentation considered unhealthful, and of the association of other domesticated or housing animals with cows.

9. A standard of quality, with periodic testing and analysis.

10. Veterinary inspection with distinction and compensation therein, and quarantine against the introduction of tuberculous cattle from without the State. It should be as rigid as against pestilence in man, and it is only by this means that the malady can be circumscribed and its bearing on human life favorably influenced.

With this standard of supervision by the State, the municipality should continue the supervision upon the same lines, which may be outlined as follows:

1. Continuation of the license system with penalties, together with stringent ordinances covering quality, adulteration, sanitary care, and relation to contagious disease contamination.

2. Milk should comply with the State standard as determined by lactometer tests, periodically instituted, both in milk houses and on wagons.

3. Sanitary non-absorbent milk-rooms of determined size, air-space, ventilation, and light; with specifically constructed, indirect-plumbed cooling and storage boxes not communicating with sleeping rooms, privies, stables, or other influencing rooms.

4. Wagons properly lettered and numbered, with protection from summer heat.

5. Stringent prohibition regarding intercourse with houses containing contagious diseases, particularly relating to the exchange of milk bottles and the prohibition of refilling milk jars *en route*. The constant surveillance of contagious disease in relation to milk routes by means of "tell-tale register."

6. Obligatory cleansing of milk utensils by a uniform method, and of cans before returning to the dairy.

7. Special supervision of and discouragement, if not abolishment of the sale of milk in groceries and similar stores

where the business is subordinate to other interests and consequently lacks protective facilities.

8. Until State and City act in unison in this, where interests are identical, the adoption of arbitrary interdiction or destruction at the city line of all milk coming from unsatisfactory dairies.

9. Systematic reports, and mutual warnings and notification of imperiling conditions.

Poisonous Effects of Filix Mas and Their Prevention.—Dr. GRAWITZ (*Deutsche Medizinal-Zeitung*, October 30th, 1899) says that the best known injurious action of the drug is its poisonous effect upon the nervous system. Besides such mild symptoms as nausea, vertigo, syncope, and tremor, there occur severe convulsions, absolute unconsciousness, and delirium, which eventually may terminate in coma and death. In many instances the blood is so altered as to destroy the red blood cells by the absorption of the poisonous principle of the ethereal extract, with the subsequent deposit in the liver, thickening of the bile, and production of icterus. Not infrequently, as the result of treatment by filix mas, gastro-intestinal catarrh occurs. In otherwise healthy persons inflammatory symptoms on the part of the kidneys are rare. If, however, old inflammatory conditions exist in the renal organs then the ethereal extract might very well cause an increase in the symptoms and pathological condition. The same applies to the liver. From the foregoing experience it may be concluded that the large doses of 20 gms. and over, as formerly given, are very unsafe, and that in adults 8–10 gms., and in children aged over six years half that amount are the proper doses. In using the drug all laxatives, oils, and oily vehicles, particularly the much-used castor oil, are to be avoided, inasmuch as the poisonous acid of the extract is very easily absorbed by oily substances. The most important conclusion of the toxicological examinations seems to be the observation that every weakness of any special organ, *e.g.*, liver and kidney, and that every general lack of resistance on the part of the entire organism increase the danger of a local or generalized poisonous effect. In the treatment of ordinary tapeworm the drug should be given only for therapeutic and not for diagnostic purposes. On account of the possibility of weakness due to rigorous fasting and purging before the expulsion, the preliminary course of treatment has been omitted for many years. The day before expulsion the patients take their usual meals. Ont he morning of expulsion they receive Carlsbad or Epsom salts upon an empty stomach, and after a movement of the bowel the drug is given with coffee. 'In some instances even the laxative is omitted.—*Medical Record, Dec. 9, 1899.*

A CASE OF ALCOHOLIC CIRRHOSIS OF THE LIVER IN A BABY.*

By R. Abrahams, M.D.,
New York.

As some authors doubt the occurrence of alcoholic cirrhosis of the liver in the very young, and as others admit its rarity only, the case before you is of sufficient interest to merit description and presentation.

Baby K. is 16 months old, a girl, and a twin. Up to the age of 14 months it was in good health. Thereafter the mother noticed a change in her child's appetite; it nursed, but took food very poorly and without the usual relish. At the same time the bowels became costive, the stools being hard and clay-colored. The face grew pale and puny; the body suffered no change; the feature, however, which alarmed the parent and compelled her to abandon home remedies and to seek medical advice was the steadily progressive increase in the size of the baby's abdomen.

The little patient came under my care on November 4th. It was quite anemic. The tongue was coated and the breath fetid. The skin was dry and scaly. The face in proportion to the body appeared small. The appetite was capricious for certain articles of food; particularly for vegetables the child was ravenous, while for certain other eatables, such as meat, it was dull and indifferent. Thirst was excessive ; the bowels were irregular, constipation alternating with diarrhea. The stools varied, being sometimes gray-colored, sometimes green, sometimes white and then again natural. The child passed very little water. The little which I secured for examination was alkaline in reaction, pale in color, 1015 in sp. gr., containing but a trace of albumin, very little urates, no sugar and no casts. Inquiry and observation satisfied me that the child never suffered from morning nausea; never had hemorrhages from the stomach or bowels; was never jaundiced and was free from hemorrhoids. Physical examination failed to disclose any organic lesion of the heart, lungs or pleura. The shape of the head and chest was normal, and the osseous system was equally unaffected. The most conspicuous feature about the baby was its distended belly. The distention was enormous. The skin over the abdomen was stretched to the utmost, so that it was glossy as well as resistant to pressure or pitting. The circumference of the abdomen over the most acutely bulging parts measured 26 inches. Owing to this great ascites, the liver and spleen could not be defined either by percussion or palpation. The ascites interfered with walking, the child continually squatting—a position which appeared to afford it great comfort. Excepting the peritoneal, no other serous cavity contained fluid. There was no edema of the upper or lower limbs and none of the face.

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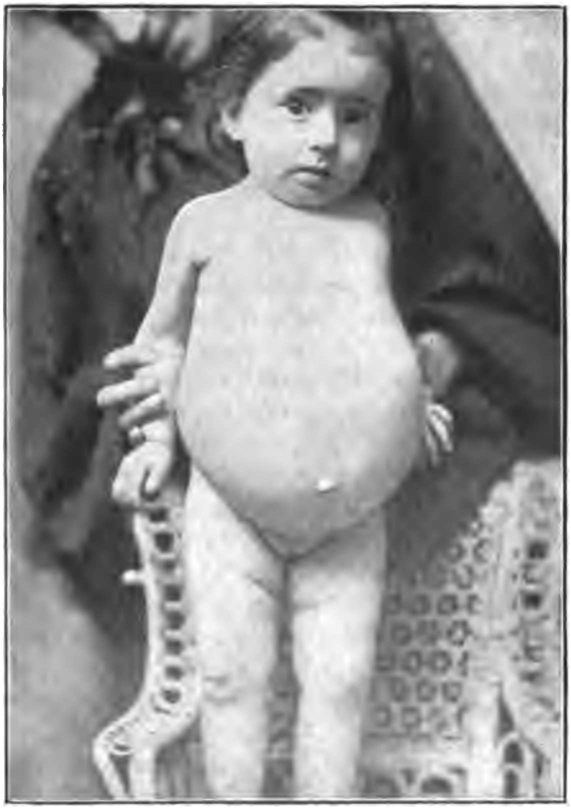
* Patient presented before the N. Y. County Medical Association, December, 1899.



Concomitant with the ascites were the distinct and enlarged superficial veins over the epigastric region and around the protruding navel, constituting in the latter place the so-called "caput Medusæ."

The diagnosis of cirrhosis of the liver was made by means of exclusion. Syphilis was excluded by the absence of a specific history in the parents, and of early or later lesions—cutaneous, dental or osseous—in the child.

Tubercular peritonitis would cause pain on pressure of the abdomen, and the ascites, if it at all existed, would probably be sacculated. Besides, lesions of tuberculosis should simultaneously exist in other organs. Carcinoma of the omentum, liver and spleen were excluded by the absence of emaciation and cachexia, and by absence of previous illness. The heart and lungs were out of the question, as they were absolutely normal. Interstitial nephritis would have merited consideration if edema of the legs had preceded the ascites and if casts and more than a trace of albumin had been found in the urine. Malaria was barred out by the total absence of fever either before or during the illness. Although the diagnosis of cirrhosis was quite conclusive, still it was admittedly lacking in etiological support. Three weeks after treatment was begun, the woman admitted to my friend Dr. H. Illoway, who kindly assisted me in performing paracentesis, that the baby was accustomed to the use of beer. I subsequently elicited the confession that the child from early infancy innocently imbibed a glass of lager every day with the hope, on the part of the parents, of improving baby's nutrition and development. Here, then, the missing link in the etiology was discovered and supplied, and the diagnosis became unquestionable.

Treatment.—For two weeks the patient was kept on two grains of iodide of soda, with no result. Acetate of potash combined with the infusion of digitalis increased the quantity of urine, but failed to reduce the ascites. While the treatment continued water was restricted and the bowels were kept moving by sulphate of magnesia—an admirable drug in this disorder, in the young as in the old. It was finally decided to do paracentesis. Over a quart of serum was withdrawn. Besides the fact that this procedure afforded relief to the little sufferer, it gave opportunity for a more careful examination of the abdominal organs. The liver was found smooth, somewhat hard and extending down almost to the spine of the ileum. The spleen was a trifle enlarged, rather upward than downward.

The tapping was done on the 4th of November. Up to date (December 18th) there was no recurrence of the ascites. The Epsom salt is continued; water is not restricted, but the beer is cut off. From all appearances, the patient seems to be doing well. The liver is smaller today than it was six weeks ago. Whether it is becoming atrophic, or is gradually returning to its previous size, is hard to tell.

156 Clinton Street.

Ferruginous Enemata in the Treatment of Chlorosis. JOLLASSE remarks that iron can not be given by the mouth to advantage until the digestion has been improved. In a number of cases he has used the citrate, in doses of from a grain and a half to nine grains three times a day, in the form of enemata (the amount of water or other solvent not stated). The injection causes rather sharp pain, but the pain rapidly subsides.—*N. Y. Med. Jour. Dec. 23, 1899.*

A SHORT PAPER ON RICKETS.

By Charles Alling Tuttle, M.D.,
New Haven, Conn.

RICKETS is by far the most frequent cause of all deformities which have come under my observation. For this reason and because comparably with its importance there is too little time given it in the ordinary medical course, I may be pardoned for asking your attention to some special observations on a number of cases (twenty-five in all) which I have seen recently.

First, that we may have a common footing, let me give the definition of rickets which I have been accustomed to give each year to my class in orthopedic surgery at Yale, *viz.*: Rickets is a constitutional malady acquired through mal-assimilation, characterized by impaired nutrition and alteration in the growing bones, and terminating spontaneously after an indefinite period. This definition, although somewhat cumbersome, I believe to be the best formulated up to the present time.

Rickets is found in every part of the known world, but is especially common in the cold and moist climates. It affects particularly the poor of our great cities where hygienic conditions are the most unfavorable, where light, ventilation and good nourishment are unobtainable, and where the food, primarily of poorest quality and insufficient quantity, is carelessly and inefficiently prepared.

The first and most striking pathological condition found in rickets is that of the bones, especially in the epiphyseal junctions of the long bones and ribs. Their ends show early a tendency to increase in size and prominence out of all proportion to the normal; they are soft, tender, yielding to pressure, and bend under superincumbent weight or muscular contraction. Investigating the cause of the changes in bony contour and quality, the periosteum is found to be thickened and congested, and, together with the underlying bone structures, infiltrated with a spongoid, jelly-like fluid. As the direct result of these pathological conditions there follows imperfect and delayed ossification and an arrest of the deposit of inorganic matter in the surrounding bony structures.

The complete series of changes which the bone undergoes in rickets has been the subject of minute investigation by Foucray, and the results thus formulated:

1. Stage of rarefaction or congestion—this is also called the stage of effusion. The bone is dark in color, soft and tender, but not deformed.

2. Stage of softening and swelling, also called the stage of deformity, because in this period the twisting and distorting of the epiphysis occur and the diaphyses are curved, if at all.

3. Stage of consolidation or sclerosis. Here the bone previously deficient in organic matter returns to the normal consistency or may surpass the percentage of lime-salts in the normal bone.

Rickets may be partial or general, *i. e.*, may be confined to one or two bones or one or two extremities (usual in adolescents), or may attack the whole osseous system (the common form with infants). Again we might divide it for convenience of description and study, as to the time of its appearance, into four periods:

1. Intra-uterine rickets, due to hereditary influences and conditions (primary error in the germ, etc.) with malnutrition of the fetus.

2. Infantile rickets, showing itself from the second to the seventh month.

3. Adolescent rickets, seen in nephritis and other wasting and chronic diseases.

4. Senile rickets, due to the devitalizing influences of age, rapid child-bearing, and dissipation.

The onset of rachitis is insidious to the last degree. It is only after an extended period of vague general symptoms, such as slight fevers, diarrhea, disturbances of digestion, tendency toward catarrhal affections, profuse perspiration, etc., all of which might be significant of tuberculosis or syphilis, that the general nutrition of the body diminishes and the alterations in the bones appear.

What then is the underlying cause? All writers agree that there is a deficiency in the percentage of lime-salts in all cases, but to account for this various theories have from time to time been proposed. There are today, however, only five that have any weight of authority. These are:

1. The so-called mineral theory, advocated by Virchow

and Jenner. This presupposes a deficiency in the supply of the mineral constituents from the blood and makes the lessened percentage of lime-salts in the blood the essential lesion.

2. The acid theory, championed by Foucray, assumes the primarily normal calcified bone to be deprived of a portion of its lime-salts by some substance in the blood, such as carbonic or lactic acid.

3. The vaso-nervous theory of Mayor, reiterated by Hoffman and Allen and later by Perry, assumes it to be due to some morbid condition of the nervous system which exerts some inhibitory influences upon the spinal cord.

4. The microbic theory, which contends for the microbic nature of the disease, was proposed by Mircoli, and is still stoutly contended for by him. He believes that the disease is produced by the action of the ordinary pyogenic organisms upon the osseous and nervous system. This theory, while in keeping with our modern pathological tendencies, has little else than theory and animal experimentation to support it.

5. The most plausible is the so-called inflammatory theory. This maintains that the cause is primarily a chronic inflammatory condition beginning in the bone-forming tissues, and has today the most authoritative endorsement. There can be no question that rickets is due to disturbed nutrition from the arterial blood and the changes in the long bones are due to excessive vascularity.

The osteal changes occur first in the cranial bones and ribs, then in the radius and ulna. Later, pelvic deformities are not uncommon and are of much importance in female children; occasionally the vertebral and intervertebral cartilages are affected, with resulting spinal curvature. In the early stages rickets is frequently mistaken and it is at times impossible to make a diagnosis before deformity appears. It is liable to be mistaken for chronic diarrhea, rheumatism, syphilis, general malaise, or malarial toxemia. In all such suspicious cases the deformity should be carefully watched for, and during this time an expectant dietary rigorously carried out. Early syphilis and early rachitis bear a striking resemblance, but with the appearance of the deformity there need be no further question, for the osseous inflammation of syphilis is not only not confined to the epiphysis but seems to have a predilection for the shaft.

Prognosis.—Under proper treatment the prognosis of rickets is good. The evolution is a long process, accompanied by a slow progressive impairment of the general nutrition and a resulting anemic and marasmic condition requiring especial care. But the innate tendency of the disease is toward a spontaneous cure, which is reached only after years, though its course under proper conditions and treatment may, in some cases, be abridged to a few months. Serious complications, from which death may result, may occur at almost any stage of the disease. These are: laryngismus stridulus, pneumonia, diarrhea, bronchitis, hydrocephalus, and amyloid degeneration of the viscera. Certain inherent conditions of the mother predispose to rickets and when they exist render the prognosis less favorable. These are ill-health, malnutrition, and disease of the mother during pregnancy; numerous or multiple pregnancies; age of mother at birth of child (forty or over); lactation during pregnancy; heredity, and syphilis.

Treatment.—The treatment of rickets is prophylactic, medicinal, mechanical, and operative. The institution of preventive measures is a matter of first importance, and by simple means directed to the above *ante-partum* causal factors in the mother, rickets may be prevented in a large proportion of cases. Prophylaxis also embraces the appropriate feeding and hygienic care of the child. During the period of gestation the general health of the mother should be kept up to the highest possible degree. Free from care and worry, she should live in the best possible hygienic and sanitary surroundings, with abundance of fresh air, exercise, and plenty of well prepared food. The common fad of American mothers to escape nursing their children for the first flimsy excuse cannot be too strongly condemned, but, if after a thorough and conscientious trial nursing be found impossible, the child must be hand-fed—an unfortunate condition, alike for the child, mother, and physician. In my hands no artificial food is comparable with good cow's milk. This, sterilized or pasteurized and diluted in proper proportions with oatmeal or barley gruel or sterilized water, with the addition of a few drams of lime-water, produces an artificial food at once cheap, easily procured and prepared, and efficient. Babies kept upon this usually become robust and hearty and with much more resistant power to the diseases of childhood than the fat yet anemic babies of the factory-prepared foods. The hygienic care of the child consists of a daily bath in tepid salt water, followed by vigorous rubbing; warm, light woolen clothing; plenty of high, dry, out-of-doors air, and good sanitation in the house. Such environment and feeding will almost surely forestall any predisposition which could possibly exist.

The medicinal treatment, while secondary to the hygienic and dietetic, is yet of quite measurable value. The general condition should be improved by cod liver oil, and so great an improvement has been wrought by it alone that some writers consider it a specific. This or maltine, either given alone or in combination with the lacto-phosphate of lime, is certainly productive of good, yet I have obtained my best results from oleum phosphoratum, as recommended by Jacobi. This I give before eating and syrup of the iodide of iron in appropriate doses after. These are usually well borne, and in many cases an improvement is noticed after one week. In the few cases in which it has been necessary to discontinue this treatment after a few weeks I have used Fowler's solution in the meantime and returned to the original prescription after the shortest possible interim.

If, now, all these measures have been neglected or inefficiently used, and the child has been allowed to go untreated until he is emaciated, anemic, marasmic, and deformed, a condition is presented which will require at our hands as orthopedists, not only hygienic and dietetic supervision, but in addition, mechanical and perhaps operative treatment.

It is not my purpose in this paper to discuss any of the various mechanical devices for the prevention or cure of rachitic deformities, or to rehearse any of the numerous operative procedures which are at our command. Suffice it to say, that in the correction of these deformities we see some of the most brilliant results of modern surgery. By and through them, unfortunate, decrepit, deformed and dependent persons are made to walk upright, are relieved from much physical and psychical pain, and made useful, self-supporting members of the community.

VACCINATION.*

POINTS VERSUS GLYCERINIZED LYMPH.

By JAMES W. GUEST, M.D.,
Louisville, Ky.

WE are now in the midst of school vaccination, and as the question as to which is the best and safest method is such an important one, I have selected this subject, or rather a comparison of the two methods now generally used, with a view of securing a personal experience from each of you as regards results from both points and glycerinized lymph.

Realizing the difficulty in getting reliable data from statistics, we must estimate our results in general practice, and give our preference to the method which seems the least objectionable, or to the one giving the best results.

Since the re-introduction of the glycerinized lymph with its unprecedented record of 98 and 100 per cent. of inoculations, a revolution has taken place in favor of this method of vaccination. Such a percentage of inoculations would seem incredible but for the uniformity of results as reported by physicians generally.

Dr. W. D. Sharp, of Lynn, Ontario, reports 500 primary vaccinations with no failures.

Dr. S. Brzozowski, of Louisville, reports 100 mixed cases with no failures.

Dr. M. A. O'Brian, of Alexandria, Va., reports 860 cases, with twenty-six failures.

Dr. John T. Chapman, of Selma, Ala., reports 283 cases, with nine failures.

Dr. Leon Solomon, of Louisville, reports 126 cases, with five failures.

Dr. Wm. Daniels, Health Officer, Harrison County, Indiana, reports eighty cases, with two failures.

These six reports were selected at random, and are given to show the trend of the profession in vaccinations with glycerinized lymph.

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* Read before the Louisville Clinical Society.

The majority of reports from lymph vaccination tell of the great percentage of inoculations, but few mention the after effects.

In investigating the results of many Louisville physicians with this method of vaccination, I found all of them getting inoculations in from 95 to 100 per cent. of cases. However, not a few, surprised at their record over previous point vaccinations, doubted the purity of the lymph and suggested the possibility of a powerful irritant being introduced to attain these splendid results.

In justice to glycerinized lymph and to controvert to some degree this idea, I think the experience of Dr. A. H. Falconer and myself should be mentioned.

In our capacity as city physicians, during our recent smallpox epidemic, we thought it necessary to vaccinate ourselves often. In the course of ten weeks he was vaccinated six and I eight times with lymph. No one of these fourteen vaccinations (four with Parke, Davis & Co.'s, and ten with H. K. Mulford's lymph) took, or left a trace of inflammatory action. Each scarification of the needle dried up and disappeared completely in three days. Thorough asepsis each time was carried out. We used soap, water and brush, and shaved the field of inoculation and sterilized the needle by passing it through a flame. The arms were dressed with shields and sterilized gauze. Both were immune, as proven, by previous vaccinations of twelve and twenty-five years respectively.

In comparing the two methods of vaccination, points versus glycerinated lymph, my individual experience is as follows:

Vaccination by Points.—Since January 1, 1898, I have vaccinated 5,123 cases, mostly children. With the first 1530 cases I used three different points, with statistics estimated at 35 to 40 per cent.

In the remaining 4,593 cases I used my fourth point, the Dr. H. M. Alexander & Co., with statistics estimated at 70 per cent. In three schools using the latter point, most brilliant results followed.

Of 33 pupils vaccinated at the Third and A Street school, 31 took.

Of 69 at the Smyser Avenue school, 65 took.

Of 282 at the Eastern colored school, 263 took.

Other schools ranged from 60 to 80 per cent.

It must be remembered that school vaccinations are generally among children who have been vaccinated before from 1 to 10 times. I estimate 30 per cent. to be primary vaccinations.

The vaccinations from points, as a rule, resulted in small scabs, with a small percentage of dermatitis and a still smaller percentage of destructive ulcers.

I have seen but few ugly arms resulting from the point vaccination, where the swelling and inflammation extended below the elbow, or to the hand, and where a large area of ulceration resulted.

I had reason to believe one of these cases was caused by the point being too long in stock, a condition we should watch closely in buying our points.

They are worthless and harmful if not fresh. They should never be used when the factory date is over three weeks old. The manufacturers claim that points will retain their purity and efficiency for ninety days if kept in an ice chest. Physicians, as a rule, purchase them directly from the druggist, usually in cold weather where stoves and heated rooms soon render them unfit for use.

The Advantages of Point Vaccination.

1. The quickest and most convenient method.
2. Time of drying much shorter, an item to office practice.
3. Not such profuse inflammatory reaction.
4. Less swelling of the glands and lymphatics.
5. Less febrile action.
6. Ulcers, if resulting, not so large and destructive.
7. Patient more comfortable.
8. The physician has less criticism to bear.

Vaccination with Glycerinized Lymph.

In vaccinating 400 cases with glycerinized lymph I estimate that a percentage of 90 showed an inflammatory action. This percentage would have been even higher except for one school which gave very poor results—52 vaccinations with 20 failures.

The vaccinations from lymph resulted, as a rule, in large scabs, with wide-spread dermatitis, resembling an erysipelatous inflammation, and often with destructive ulceration following.

Many cases showed marked glandular swelling, and swelling of the arm below the elbow, and to the wrist, hand and finger tips. The cases also showed an acute febrile condition, with painful joints and great pain along the arm from tension.

I estimate that in over 50 per cent. of these cases this inflammation as described was much greater than we would ordinarily expect from vaccination.

The worst of these conditions ran a prolonged course of undue violence from three to six months before healing.

In the language of Dr. Brzozowski, "the arms were terrific, resembling legs instead of arms." He estimated that 60 per cent. of his cases, of a full tube vaccination, showed these conditions.

I used a full tube, just as I used a whole point, for each case. These vaccinations from the lymph had exactly the same preparation as to cleanliness, the arms were washed with soap and water and dried, as I did other pupils when points were used.

I had more trouble and criticism following these 400 cases from glycerinized lymph than I did with the entire 5,123 cases of vaccinations from points. I noticed the period of taking was marked by a great variance, some cases taking on inflammatory action in three days, while others commenced on the fifteenth and sixteenth days.

I am forced to believe that the quantity of lymph in a full tube is too large for the majority of people, especially for children, from whom my statistics were taken.

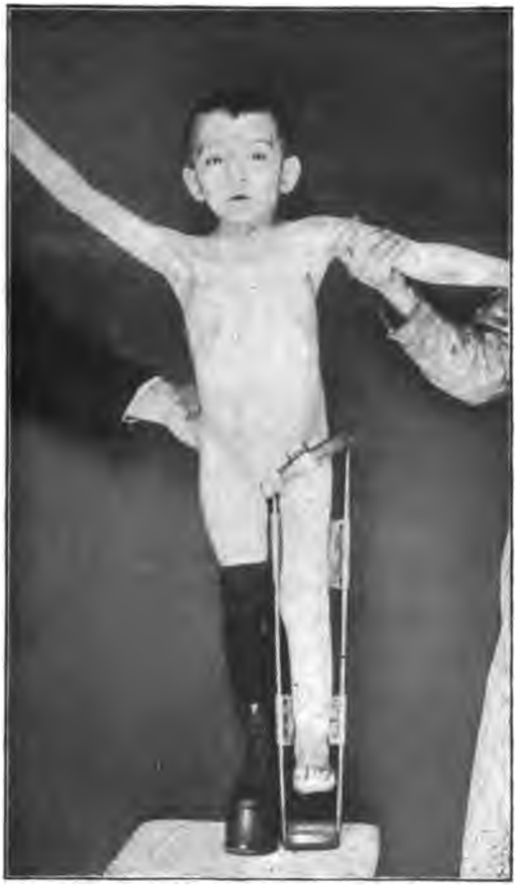
The Advantages of Glycerinized Lymph Vaccination.

1. Greater percentage in taking.
2. Can be kept pure much longer.
3. Physicians are more apt to get a pure article from stores.

THE THOMAS KNEE SPLINT.

By Henry Ling Taylor, M.D.,
New York.

THIS splint is in effect an ischiatic crutch. It takes the weight of the body on the inner segment of the padded metal ring, upon which the tuberosity of the ischium rests, and transmits it through the rigid side-bars to the ground. The brace is about three inches longer than the limb, the difference being made up by a high sole on the well side.



This enables the patient to walk without putting any weight on the hip, knee or ankle joints of the affected side.

The leg is secured in place by many turns of a bandage or by a leather lacing, which is designed to hold the knee in the extended position. If, however, the knee is very sore, or if there is much tendency to flexion, it is much better to separately immobilize the joint by a plaster bandage extending from above the ankle nearly to the crotch. The ring in the picture is purposely made large enough to admit the leg encased in plaster. It is also well in the acute cases to apply adhesive plasters to the sides of the leg, which may be buckled into straps fastened to the bottom of the brace, in order to produce extension. In cases where these extension straps are not needed the apparatus may be suspended from the opposite shoulder by a strap buckled to the ring in front and behind.

In all cases it is best to reduce the deformity, if any exists, by special treatment during recumbency, before permitting locomotion with the splint.

Used in the way indicated, this simple apparatus is well adapted for the treatment of certain stages of ostitis of the knee, ankle and tarsus.

60 West 55th Street.

EDITORIAL COMMENTS

The Dose of Antitoxin.

When diphtheria-toxin and antitoxin are mixed together in a test tube, the amount of the latter required to neutralize the former is minute. When a guinea-pig is injected with a poisonous dose of diphtheria-toxin he will survive if a small dose of antitoxin is administered within 24 hours. After two days it will take many times this amount of antitoxin to neutralize the toxins that have been introduced. Dr. A. J. Turner, of Brisbane (*Brit. Medical Journal*, 1899, Dec. 30), thinks that this is because the toxin has left the blood and has entered into some sort of combination with the tissues of the body. Whether this be the true explanation or not, he has succeeded in reducing the mortality in his cases from 17 to 13 per cent. since he has been using large doses of antitoxin. We thoroughly agree with this author in regard to the use of full doses of antitoxin in the beginning. In the majority of the cases seen by us, the patient has exhibited catarrhal symptoms with a feeble pulse for some days before the actual appearance of the membrane;—hence the advisability of making a culture in every case of sore throat among children. During the catarrhal period toxins are being elaborated, as is often shown by their action on the heart, although no membrane has yet made its appearance. Bearing these points in mind we have come to use much larger doses of antitoxin than those ordinarily recommended in the standard text-books on childrens' diseases.—It seems also pretty well established that one full dose is more effective than smaller doses repeated at intervals. We have never administered so small a dose as 1,500 units to a child less than two years old without a feeling of misgiving. We are much better satisfied when we have given

3,000 to 4,000 units. In older children and adults we use 6,000 units as an initial dose. If after twenty-four hours improvement has not been manifested we give 3,000 or more units in addition. The later the case is seen, the larger must the dose be. The greatly increased amount of antitoxin per c.c. of horse serum has much reduced the somewhat unpleasant, though comparatively harmless, results of the older preparations, such as pains in the joints and rashes so that we should not hesitate on account of these. In deciding upon the amount to be given, besides the supposed duration of the disease, we are also influenced by the extent of the local lesions and the amount of toxemia present. T.

Antistreptococcus Serum.

The clinical reports on the use of antistreptococcus serum up to the present time are certainly not encouraging. There seem to be, however, some few cases in which it was probably the means of saving life. The explanation of the uncertainty of its action is that streptococci differ widely among themselves and that the various species have not as yet been differentiated. As might be supposed, it is quite useless when administered for septicemia due to infection by an entirely different form of micro-organism. Some day it is possible that we may be able to determine just what variety of streptococcus we have to do with in a particular case and may then be able to obtain the proper antitoxin for that case. Until such knowledge has been gained, the regular methods of drainage and antisepsis with general stimulation must be depended upon by the practical man. The careful report of the committee of the American Gynæcological Society (*Amer. Jour. of Obstetrics*, September, 1899) which has been extensively quoted, has done much to shape our opinion and we should advise its perusal by all interested in the subject. T.

Leucocytosis in Whooping Cough.

DeAmicis and Pacchioni (*Clin. Med. Ital.*, 1899, and *Revue Mensuelle des Mal. de l'Enfance*, 1900) affirm that whooping cough is constantly accompanied by an abundant leucocytosis. The leucocytosis begins in the first few days, reaches a maximum during the convulsive stage, and persists for a variable time afterwards. It is a *lymphatic* leucocytosis. In no other affection of the respiratory passages is this condition ever found so marked. The authors claim for it a great and early diagnostic significance, early recognition of the disease making prompt isolation possible also.—There should be speedy response to this report from other observers. The patients are numerous, the counts can readily be made, and the results will be of immediate practical value if they confirm the claims of the authors cited. B.

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, January 11, 1900.
THOMAS S. SOUTHWORTH, M.D., Chairman.

A Congenital Sacro-Coccygeal Tumor.—Dr. SARA WELT-KAKELS presented a girl of 4½ years with a congenital sacro-coccygeal tumor. Both parents were healthy, and the child had been born at full term after a normal labor. Immediately thereafter the physician had noticed this tumor. The tumor had never caused any serious inconvenience. The child was rather poorly nourished. The tumor could be felt somewhat below the end and to the left of the coccyx. It was soft and in places slightly fluctuating. It was not adherent to the skin; it was translucent and the tension was considerably increased on coughing. These tumors occur rather more frequently in the female sex. Sometimes they cause serious obstruction during labor.

The Skull of an Anencephalous Monster.—Dr. VANDERPOEL ADRIANCE exhibited the skull of an anencephalous monster, dying a few hours after birth. The vertex of the skull was entirely gone; there was no forehead; the frontal bone did not run up from the orbital fossa; the parietal bones were entirely lacking. The cerebellum was fairly developed, but there was no cerebrum.

An Arm Brace for the Prevention of Scratching, Thumb-Sucking, etc.—Dr. CHARLES G. KERLEY exhibited this brace, which consisted of a light steel rod with soft, malleable semi-circular bands. This splint was intended to be applied over the clothing so as to immobilize the elbow. Even with such an apparatus the extreme mobility of the shoulder joint in infants would occasionally allow the child to reach up to the top of the head. To prevent masturbation he had made use of a light metal brace holding the elbow at a right angle.

Dr. HERMAN said that the apparatus was very neat and effective, but hardly applicable among the poor. For the latter he would advise the use of a pasteboard splint with laces so arranged that the arm would be confined behind the back.

Statistics of an Epidemic of Measles, Including the Observation of Koplik's Spots.—Dr. Vanderpoel Adriance reported an epidemic which had occurred at the Nursery and Child's Hospital last summer, and had lasted from May to October. There had been in all 96 cases, 91 being in children under 5 years of age. One case had been in an adult. Measles in private practice, he said, was recognized as a very mild disease, but in children's institutions it was one of the most serious that the physician was called upon to combat. In this respect there was a marked contrast between scarlet fever and measles. An example of this had been observed in the hospital, one case of scarlet fever having developed in the reception ward, the infection not spreading further than that ward, while the measles had spread all through the house in spite of every effort to control it. Second attacks of measles were not so frequent, apparently, although there was a great difference of opinion regarding the frequency of such cases. Out of 96 cases, 16 had had second attacks of measles—or ⅙. Two of the cases he had seen himself during both attacks. Fourteen of the cases had occurred in hospital, and hence it had been a matter of record and observation of the physicians on the house and visiting staffs. During an epidemic of measles, when the mucous membrane was much inflamed, a favorable soil was offered for the propagation of the diphtheria bacillus. Out of the 96 cases, 36 had been complicated with diphtheria. Of these 36 only 4 had proved fatal. The mortality from the entire epidemic had been 15 ⅝ per cent. Otitis media had occurred in 17; pneumonia in 16; colitis in 14. Diphtheria had caused 4 deaths, pneumonia 5, pneumonia and colitis 2, entero-colitis 4. The pneumonia complicating measles was quite different in institutions from what it was in private practice—in fact, in some institutions it was treated as a separate contagion, cases of pneumonia being isolated from the other children. In the epidemic under consideration it had been impossible to isolate the cases of pneumonia on account of the limited ward room, but every effort had been made been made to secure free ventilation, and to move the children at short intervals from one ward to another while the ward vacated was being disinfected with formaldehyde. The fact that the mortality in this epidemic had been less than previously seemed to indicate that this practice had been beneficial. In 17 of the cases, occurring during the first part of the epidemic, no accurate record had been made regarding Koplik's spots, but in the others the record had been accurate. In 76 per cent. of these Koplik's spots had been seen; in 20 per cent. it had been seen before the rash had been developed; in one of these four days before the appearance of the rash. In these cases Koplik's spots were visible more than 24 hours before the appearance of the rash, yet he did not think it had been the means of limiting the spread of the infection at all. This was apparently to be explained by the fact that measles was so very contagious during the prodromal catarrhal stage. Koplik's spots were, of course, very useful as an aid in diagnosticating measles. It was most important to examine the child minutely, and in good daylight when searching for these spots. They were easily overlooked by an unpracticed eye.

Dr. JACOB SOBEL said that as a result of an extensive experience in measles he had come to very definite conclusions regarding these spots. He personally believed that the presence of these spots was absolutely pathogonomic of measles, just as much so as the existence of the malarial plasmodium in the blood was indicative of malaria. He had yet to see a case in which these spots had been present that had not been followed by the usual eruption of measles. He had seen in some cases the mucous membrane studded with hundreds of these very minute bluish spots. Before the appearance of the eruption great care was necessary in looking for these spots, because they occurred from five days to a few hours before the cutaneous manifestations. There was a time, sooner or later in every case of measles, in which these spots were present. He firmly believed that many cases which had been diagnosticated as measles without Koplik's spots had been nothing more than cases of German measles. This was particularly true of the severe form of German measles. In the latter affection the onset was sudden and the fever was moderate; the eruption was concentric instead of cresentic, as in measles. There was a normal skin within a circle; there was less coryza and some times there was enlargement of the post-sternal glands in German measles. German measles was a disease separate and distinct from true measles, and this fact was emphasized by the absence of Koplik's spots. In this affection there was a disproportion between the cutaneous manifestations and the constitutional symptoms. Failure to see Koplik's spots in measles might be due to the fact that before the physician's visit they had been washed off. These spots could hardly be seen by artificial light, they required an abundance of good daylight, and the cheek should be everted. He has repeatedly seen German measles following ordinary measles after a period of six weeks. This was another argument in favor of the individuality of these two diseases.

Dr. J. HOWLAND said that during last August, September and October an epidemic of measles had occurred at the New York Foundling Hospital. Of the 61 cases observed 4 had proved fatal. The weather being mild free ventilation had been possible. At the end of each week the children had been changed to another ward, and the one that had been in use was meanwhile disinfected and cleansed. All of the cases of broncho-pneumonia had been quarantined. Of the 61 cases 12 had developed broncho-pneumonia, and all of the four deaths had been the result of this complication. As a result of former experiences in this institution every child immediately upon developing measles had received an immunizing injection of diphtheria antitoxin, the dose varying from 250 to 450 units of antitoxin. There had been no cases of noma in this epidemic. Of the 61 cases, 1 had shown Koplik's spots four days before the rash; 1 in three days; 6 in two days; 15 cases one day before; 21 cases on the day beginning the eruption; and 7 on the day of the maximum eruption; in 4 cases no spots had been observed, and in 6 other cases they had been very uncertain. Thus in 84 per cent. of the cases Koplik's spots had been definite. In most cases they had been found in the buccal mucous membrane. Apparently the spots had developed and increased with the eruption. They had also found the spots of no value in checking an epidemic because they had not appeared before the catarrhal stage of the disease. During the last two weeks there had been an epidemic of 30 cases of German measles, and careful examination had failed to show Koplik's spots in any case.

Dr. LA FETRA thought Koplik's spots were of value in making the diagnosis of measles in those cases in which rashes had developed as the result of the injection of diphtheria antitoxin. He had seen a number of such cases in which the rash had closely resembled that of measles. In another case, one of diphtheria, a rash resembling that of measles had made its appearance, and the presence of Koplik's spots had enabled him to make a diagnosis of measles immediately. In this case it had happened that another child in the same family had been suffering from measles, so that there could be no doubt about the correctness of his diagnosis. He had not observed Koplik's spots in cases of German measles. He would call attention to the fact that in every case of German measles that he had seen he had noticed a redness and swelling of the duct of the parotid gland at its opening in the mouth opposite the second bicuspid tooth. He would like to know if others had observed this.

Dr. E. Libman said that he had taken an interest in Koplik's spots for the past four years. He had noticed these spots in some instances on the conjunctiva. An important diagnostic point was that these spots were surrounded by a red areola. In several cases of syphilis the rash had been shown not to be that of measles because of the absence of these spots. These spots were also useful in adults as a means of differentiating measles from drug eruptions. In hospital practice these spots were a useful guide to the physician examining children for admission. Where it was a routine practice to examine the children's mouths twice daily it was possible to isolate the cases of measles so promptly as to prevent a general epidemic. It had been lately shown that these spots had been fully described by Flindt in 1880, and, apparently, other authors had also described them, but certainly little or nothing had been known of their practical bearing until Dr. Koplik had brought the matter to the attention of the profession.

Dr. L. Emmet Holt asked regarding the value of these spots in those obscure cases of measles occurring in children suffering from marasmus.

Dr. J. Milton Mabbott said that it was hard to believe that there should be as many as seventeen cases of second attacks of measles out of a series of ninety-six cases; certainly no such large proportion was observed in private practice. He was skeptical about the invariable occurrence of Koplik's spots in measles, and thought if they occurred in a large proportion of cases they would probably be a means of checking the disease among the better classes. At the present time it was apparently impossible to control measles among the tenement houses; indeed, he had been informed that the Health Department had given up the practice of fumigating apartments after measles. Koplik's spots should prove of value in preventing the admission to children's hospitals of those in the catarrhal stages of measles. An excellent plan had been adopted in the New York Infant Asylum, City Branch—that of keeping a careful index of all the reports from the Health Department regarding measles and other contagious diseases, and using this record as a guide in excluding children and visitors from houses reported to have been infected within a short time.

Dr. Charles G. Kerley recalled a family in which he had taken two persons through two distinct attacks of measles, the last being very severe and accompanied by nephritis. The mother had told him that all of her children had had two or more attacks of measles. The attacks had been absolutely typical in every respect.

Dr. Herman said that, as an assistant of Dr. Koplik, he had had an abundant opportunity of determining the value of these spots. As a medical inspector for schools he had found this diagnostic sign exceedingly valuable. Mention was made of five cases in which he had excluded children simply on the appearance of these spots, and all of them had subsequently developed a typical measles eruption. As there were about 250,000 school children in the city, and the Board of Health reported only about 100 cases as having come from the schools, it was evident that many had been overlooked.

Dr. R. G. Freeman said that these spots had been looked for very carefully for two or three years in all cases of measles occuring at the Foundling Hospital. According to these observations the spots had appeared in about the percentage of cases mentioned this evening. In some cases in which the spots had been present no measles-rash h[illegible]ed; hence, he would suggest that it would be ver[illegible] expose a child to infection with measles sir[illegible] the presence of these spots.

ABSTRACTS

MICROCOCCUS INTERTRIGINIS ROSSBACH.

Max Meyer, M.D., Ph.D. (*The New York Medical Journal*, 1899, lxx, 873), considers Erythema intertrigo to be due to a specific organism which he designates micrococcus intertriginis Rossbach.

From a pronounced case of erythema intertrigo a small amount of the caseous material was introduced by means of a sterilized platinum loop into the following media: Petri dish—nutrient gelatin, glucose-gelatin, agar; culture tube—nutrient gelatin, agar, serum; potato; milk. The growth on the different media was good but rather slow.

(*a*) *On Petri Dishes.*—The colonies were spherical in shape. with fine serrated margin, and light-yellow in color. The gelatin was liquefied, forming at first a shallow depression which became gradually funnel-shaped, leaving in its concavity the fluid gelatin mixed with the colonies. A very offensive odor like rotten cheese was perceptible, especially in the gelatin cultures.

(*b*) *On the Culture Tubes.*—A growth similar to that on the Petri dishes appeared. The gelatin stab-cultures grew slowly, sending out fine threads which anastomosed with each other, and after an incubation of three days a shallow depression appeared and liquefaction took place. This depression molded itself into a funnel-shaped cone,' sending out threads which penetrated the medium and gradually advancing, threw out very delicate anastomosing fibres to radiate in all directions. No gas formation was apparent and the medium was not colored. On agar the cultures grew on the surface only; they were not more than a tenth of an inch in diameter and crept slowly forward, accumulating in heaps. The appearance of the colonies was slightly yellow and without any gloss. The growth on serum was moderately quick; the colonies covered the medium like a film of a light-yellow color.

On potatoes a yellowish-brown spot appeared from which the colonies spread, becoming lighter colored as they advanced.

Milk was not coagulated or acidified.

Indol reaction could not be observed.

Morphology.—The germ, as seen under the microdiameter. It has no flagella nor spores. It is aerobic. Examination of the hanging drop does not reveal any independent motion. Occasionally the cocci heap together; at other times they form very short, chain-like threads.

Staining.—Specimens stain with watery aniline dyes, especially well with methylene blue, gentian violet, and fuchsine. After Gram they decolorize, but not completely.

Pathogenesis.—On animals inoculated with the pure culture by scarification the disease appeared within forty-eight hours, and cultures made from these inoculations produced the same germ, which proved to be virulent to the tenth generation.

Therapy.—The cocci grow best at body temperature. They are destroyed at 70° C. and below 10° C. Of all the antiseptics which have been tried, formaldehyde in a half-per-cent. solution seems to be most effective in killing the germ.

TREATMENT OF PLEURAL EMPYEMA IN CHILDREN.

In an article on Pleural Empyema in Children, Dr. F. L. VAUX (*Mont. Med. Jour.*, 1899, xxviii, 845) says, in regard to treatment, the various methods open for use are:

(*a*) The expectant combined with medical treatment, which is merely mentioned to be condemned as a specimen of Medievalism.

(*b*) Evacuation by trocar and canula,—undoubtedly the simplest and certainly one of the oldest of all methods, being practically the only one in vogue until Bowditch, of Boston, and Wyman, of Cambridge, Mass., introduced pneumatic aspiration. It was, however, at best but a makeshift, is never employed now, and may be relegated to the past with the key of Gagnon.

(*c*) Pneumatic aspiration. This treatment will be more often used to afford temporary relief than to effect a cure, unless occasionally in infants or in rare cases of sacculated empyemas. At times, however, when the effusion is only seropurulent it may prove sufficient without incision.

(*d*) Simple thoracotomy is a rapid method of operation and is very generally in vogue. A drainage pipe is usually employed, but may in certain cases be dispensed with. The indications for this operation will be discussed in a subsequent paragraph.

(*e*) The operation of primary exsection of a portion of one or even two ribs is coming more and more into general use. In Mount Sinai Hospital it is the routine one. This has been criticised unfavorably, but generally by those who are not acquainted with the conditions present. The fact remains that it, more than the simple incision, is the operation *par excellence* for a service in which the cases are of long duration and where large clots of fibrin are generally present.

Choice of Operation.—This must and always will be a matter of preference, all rules to the contrary notwithstanding; yet it is equally true that certain surroundings and conditions will materially mould an operator's methods of work. And for this reason no man can consistently advocate his own operation as the most appropriate in all cases, as the one invariably to be employed. Thus, the surgeon in charge of a pediatric clinic, who finds that primary exsection is an absolute necessity in the class of cases which come to his service, must bear in mind that this same necessity will not exist in private practice where a case can be watched from the very commencement and accurately diagnosed when as yet the fluid is only seropurulent. The following rules of procedure may be of some value as a guide:

Exsect.—(1) In tubercular cases where secretion will probably go on for some time.

(2) In long standing cases where the pleura will be thickened.

(3) In some cases of streptococcus infection.

(4) As a routine precedure in any service or practice in which simple incision has been tried and found lacking owning to the nature of the case.

The great advantage that primary exsection possesses is that it gives free and constant drainage, the great disadvantage is the osteomyelitis which generally follows, thus necessitating a second operation.

Make a Simple Pleural Incision:—(1) In all cases in which it is absolutely necessary that shock, however slight, be avoided.

(2) Whenever time is the first consideration.

(3) In the empyema of healthy, well-nourished children where aspiration shows seropurulent fluid only.

The advantages of thoracotomy are these:—(*a*) Rapidity and simplicity. (*b*) No cancellous bone tissue is opened up. (*c*) Recovery is (probably) quicker. The disadvantage under which the operation labors is the almost necessary use of a drainage tube. If the tube be of soft material it is liable to be compressed between the unyielding ribs; if of a hard substance, it plays upon the periosteum, tending to strip it off and induce necrosis.

Retention Following Exsection.—As has already been said, this is the commonest and most annoying complication of the radical operation, an constitutes practically the only serious obstacle to its general adoption, as it demands further operative treatment. The following pathological process ensues in such cases.

The periosteum having been stripped back and cancellous tissue being exposed in the cut ends of the bone, there is no hinderance to infection of the medulla, and a septic osteomyelitis is a result of the rush of fetid streptococcic pus over the ribs. The Haversian canals are blocked, the long capillaries become compressed, and a necrosis ensues. In a tuberculous child, in addition to this, granulation tissue is formed, which finally breaks down and invades the surrounding structure. Temperatures follow, often a too rapid increase of regeneration of diseased bone takes place, the outlet is diminished, retention of pus with non-expansion of lung ensues, and the necessity for a second operation becomes apparent. These indications may present themselves within a fortnight or as late as two months. If the child has been operated on in a hospital, it will usually apply for readmittance within two months unless its stay has been very protracted. Usually, the only clinical symptoms in these cases will be a discharging sinus with temperature of 100° to 101° F.

Treatment of Osteomyelitis with Retention.—The obliteration of a suppurating pleural cavity is the surest and quickest way of preventing further purulent discharge, and this is accomplished through three agencies:

(1) Ascent of the diaphragm. (2) Expansion of the lung. (3) Collapse of the chest wall. If nature alone cannot produce the desired result we may assist by several operative measures.

(*a*) Removal of the granulations by repeated curettings, the use of the rongeur and stimulation with iodoform and ether. (*b*) If this is insufficient, an Estlander. (*c*) As a last resort, Shedé's operation.

ON CEREBRAL DIPLEGIAS IN CHILDHOOD (LITTLE'S DISEASE).

R. Massalonga (*Wiener medicinische Blaetter*, 1898, xxi, 7, 12) divides all forms of cerebral diplegias in children into the following groups:

(1) General typical muscular rigidity; general muscular rigidity, slight form, in which the symptoms are less prominent.

(2) General muscular rigidity, in which the symptoms are still less marked, where the muscular rigidity, so to speak, is in a latent condition, as it only appears in certain movements.

(3) Transition forms between general muscular rigidity and paraplegic muscular rigidity.

(4) Absence of paraplegic muscular rigidity.

(5) Paraplegic muscular rigidity, accompanied by hemiparesis.

(6) General muscular rigidity, accompanied by hemiparesis.

(7) General muscular rigidity, with bilateral spastic hemiplegia.

(8) Bilateral athetosis.

(9) General spastic chorea.

(10) Spastic muscular rigidity, more or less extensive, combined with chorea or athetosis.

(11) Chorea and athetosis combined.

The name of Little's disease is proposed by Massalonga for this group, in place of the term "cerebral diplegias of childhood" advocated by Freud, as the muscular rigidity preponderates in the great majority of cases, while paralysis is only very exceptionally present.

As against the etiology of the disease described by Little, Massalonga from his own and the experience of others emphasizes:

(*a*) That the cerebral diplegias of childhood may be congenital as well as acquired.

(*b*) That they may be produced by difficult labor and asphyxia of the new-born, but in all probability are caused by febrile diseases of an infectious nature.

(*c*) That an irregular pregnancy, disturbed by nervous affections, seems to predispose to cerebral diplegias, even though labor proceeds normally.

(*d*) That no connection can be found between the etiological factor and the clinical form of the disease.

The primary condition, according to Massalonga, is a meningo-encephalitis brought about by an extra- or intrauterine affection (toxemia); the other findings at the post-mortem, hemorrhages, cysts, sclerosis and atrophies of the brain, porencephaly, pachymeningitis, etc., are only phases of evolution or degeneration of the primary meningo-cerebral condition, no matter whether they are caused by primary lesions of the nervous elements, or by affections of the vessels which could be ascribed to the same cause, namely, infection or intoxication. The spinal cord lesion is always secondary, even in cases where distinct cerebral symptoms could not be demonstrated clinically. That this secondary degeneration of the pyramidal tracts is not found in all sections is due to the late development of these tracts which frequently only become fully developed in the second or third year of life. Van Gehuchten's view that spastic muscular rigidity in prematurely born infants is dependent on an imperfect development of the spinal cord, and the total absence of the pyramidal tracts, being therefore of spinal origin, is met by Massalonga with the assertion that the imperfect development of the pyramidal tracts was probably the most important cause of cerebral diplegias; that it was not of a primary nature, but the result of anatomical changes of an inflammatory nature, of a toxic-infectious origin, of the cerebral membranes. Massalonga reports seven cases observed by him personally:

Case I.—General spastic rigidity. A child 6 years of age. Labor and birth were normal. Three months ago the child began to loose flesh, vomited, and had diarrhea. A few months later the mother noticed that the extremities were rigid and difficult to move; she observed also rolling of the eyeballs, and little intelligence. Condition, three years later: normal mind, voluminous skull, nystagmus horizontalis, and internal strabismus of the left eye. Speech consists in inarticulate sounds. Ataxia of the upper extremities, and spasm of the upper and lower extremities are present. Bilateral pes varo-equinus, atactic-spastic gait, increased reflexes of the upper and especially of the lower extremities. Mind and sensory organs normal. Very slight improvement during stay in the hospital.

Case II.—Paraplegic rigidity and spastic hemiparesis of the left side. Patient, 17 years of age. Mother is hysterical; pregnancy and birth were normal. Patient was well until 13 months of age. A high fever then suddenly came on, lasting several days, with epileptiform attacks which recurred for years, decreasing however in intensity and frequency.

The patient only learned to walk and talk at 5 years of age; the lower extremities always maintained a position of flexion and abduction, the feet were in a varo-equinus position, the right arm was also flexed at the elbow joint. The right extremities suffered most. Irritable, angry temperament. Speech improved in the course of years, always remained imperfect however. Memory good, writing undecipherable. Present condition: poorly developed, dolichocephalic skull, ears standing out, mouth half closed, the right side of the face is less developed than the left; gait skipping, the legs touching each other and the right foot being dragged; the right arm is abducted, the arm and hand in a position of flexion; speech difficult, with a guttural sound; intelligence good; slightly myopic; there is a general increase of all the tendon reflexes.

Case III.—Bilateral athetosis and general muscular rigidity. Child, 4 years old. Father addicted to liquor. While pregnant the mother met a young person suffering with athetosis and was deeply impressed; she was subject to great excitement on account of her husband's drinking habit. Labor was difficult, the child was born asphyxiated. In the early part of the second week the mother noticed a condition of muscular rigidity of the neck, of the upper, and later also of the lower extremities of the infant; also slow but violent movements of the extremities (which ceased during sleep), particularly of the fingers and toes. Present condition: the skull is somewhat depressed in the left occipital region; mouth is half closed and frequently makes sucking motions in which the tongue also participates. The patient has at no time emitted articulate sounds.

Dysphagia accompanied by coughing paroxisms and suffocative symptoms is present. The arms are adducted, the forearms flexed, athetosis of the fingers is present; the legs are adducted and slightly extended. When excited the abnormal positions as well as the athetosis of the extremities are markedly increased, so also the rigidity of the muscles of the limbs and neck which is nearly always present. During sleep all these symptoms cease. The child is unable to stand alone; when assisted he walks with a spastic gait, the head and shoulders pointing backward. The reflexes of the soles of the feet are prompt, the others cannot be determined on account of the rigidity. Two months after admission the patient died of a broncho-pneumonia. Beside the latter, the autopsy showed the presence of enlargement of the heart, hyperemia and hypertrophy of the liver, hypertrophy of the spleen, hyperemia of the cerebral membranes, the pia being adherent in some of the convolutions, the convolutions flattened; the frontal and prerolandic convolutions discolored to a whitish-gray, somewhat firmer than normal, wrinkled, their white matter of a gray tint, slight hyperemia of the spinal membranes, the subarachnoidean space containing quite a quantity of exudation. Microscopic findings: the nerve fibrillæ of the pyramidal tracts very thin, and only distinctly degenerated in the cervical portion.

Case IV.—Bilateral athetosis and paraplegic muscular rigidity. Patient, 38 years of age. Mother suffered from hemiplegia for a long time; pregnancy normal, labor tedious and severe. The child remained well up to 10 months of age. At this time a high fever, restlessness, convulsions of the body and face made their appearance. These soon ceased, and were followed by paraplegia and athetosis of the upper and to a lighter degree also of the lower extremities. Intelligence is normal, speech inarticulate; irritable, passionate temperament. Later addicted to masturbation. Present condition: irregular movements of the muscles of the face, mouth and tongue; the eyeballs also are in continual motion, the head is carried forward, to the side or backward. Athetosis of the upper extremities and the toes is present. Legs in a position of adduction and flexion. Walking is impossible. A few muscles of the upper extremities are hypertrophic. Tendon reflexes increased.

Case V.—Absence of bilateral athetosis. Child, 6 years old, no hereditary taint. Pregnancy normal, labor tedious, child not born asphyxiated. After 10 days the child began to emaciate, the skin took on a yellowish color; sleep became restless, there is continued crying. A few days later irregular movements, at first of the arms and hands, then of the lower extremities occurred, accompanied by a slight degree of muscular rigidity. In the course of a few months this increased, extending to the muscles of the mouth, eyes and tongue. Intelligence slight, speech is confined to a few words. Present condition: beside the symptoms already mentioned, there is an apathetic condition, opisthotonus, the arms are adducted, forearms and hands flexed, the legs adducted, varo-equinus, gait difficult, even when supported, intelligence good.

Case VI.—Bilateral chorea-athetosis. The mother of the patient suffered with hysterical seizures during pregnancy. The father is a drunkard and suffers from syphilis. Labor normal, the child remained well up to the fourth year of age. Then suddenly fever and delirium appeared. Since then he was unable to walk. The lower extremities are flexed and adducted. Speech is lisping; the child is apathetic, presents a motor weakness of the upper extremities. This is followed by athetoid and choreic movements of all extremities, the thorax, the neck and face. There is no improvement with increasing age. During the day the patient would lie on the floor, crawling like a snake, throwing about the extremities, flexing or extending the neck, with eyes rolling and distorting the mouth. All the muscles are spastically contracted, but moderately so. The tendon reflex is increased.

Case VII.—Congenital spastic chorea. Mother healthy; father suffering from articular rheumatism; pregnancy and labor normal. Seven days after birth fever and icterus made their appearance. At the same time choreic movements of the head and extremities occurred which increased later in force and frequency. The patient learned to walk and stand comparatively late. The intelligence is normally developed, speech is rudimentary. The choreic movements are much more marked in the upper extremities than in the lower, as a strong muscular spasm is present here. At times there are also involuntary movements of the eyeballs and the mouth. Tendon reflex increased.

A RARE CASE OF TERATOMA COLLI.

H. Munker (*Ungarische Medicinische Presse*, 1898, iii, 44). The patient was a child, 2½ months of age, in whom the rapidly-growing tumor obstructed deglutition, so that an operation was unavoidable. The child died three days later. The soft fluctuating tumor, consisting of three protuberances, was situated on the right side of the neck, and a few isolated firm spots could be felt on it; the skin covering it was tense, traversed by large veins and small arterial vessels. It reached upward on the face as far as the right arcus zygomaticus, and also to the anterior border of the left sterno-cleido-mastoideus, downward to the third rib, and extended to the mastoid process, at which location it presented two glands the size of a pea. The skin of the upper lobe was continued to the integument covering the tumor. The voice was somewhat hoarse, respiration free.

Section of the extirpated tumor presented the following peculiar picture: Various large cavities of different shapes are found imbedded in the basic tissue in an irregular manner, partly side by side, partly in groups. These cysts are of the size of lemons to that of the head of a pin, some round, some in the form of a slit, others present diverticuli, etc.; the largest cysts have the thinnest walls, while the smaller ones as a rule have thick walls.

The histological examination revealed the following: Embryonic tissue, embryonic cerebral matter, fat, cartilage, muscular fibers arranged cross-wise in certain localities, cavities which looked like cysts, and others which resembled glandular tissue.

ON EGYPTIAN OPHTHALMIA AND ITS PREVENTION.

The following information has been issued by the Grossh. Meckl. Medicinalcommission at Rostock (*Aerztliche Monatschrift*, 1898, xii, 574) regarding this disease.

1. Egyptian ophthalmia (trachoma) is a contagious disease of the conjunctiva (inner surface of the lid); it may, however, also involve the eyeball and lead to grave disturbances of vision, aside from the pain and discomfort which it causes. As a rule, both eyes are affected. No age is exempt. The disease is of very chronic nature, lasting, as a rule, many months, and, frequently, years, and is very prone to relapses. The ability to earn a livelihood may be greatly affected and may even be destroyed.

2. The contagion resides in the increased secretions of the eye (tears, pus, mucus). The secretion may be carried to others coming in contact with the face, the hands, the linen, or articles handled by the patient. The common use of handkerchiefs, towels, and washing utensils is most frequently the cause of contagion.

The disease is, however, not carried by the air; filthiness, unhealthy dwellings, insufficient airing of the rooms, are favorable to its spread.

3. The disease is recognized:

(*a*) By the patient himself by a diminution in size of the palpebral fissure, adhesions of the lids, on awakening in the morning an increased flow of tears and mucus, as also by photophobia in daylight, a burning sensation, pressure and pain under the lids, which are especially severe in heat and dust; the eyes look reddened; this is not always easily recognized, however. Violent pain and dimness of vision, as a rule, make their appearance if the eyeball is also involved.

The discomfort need not be great in the beginning; for this reason it is even more necessary to have the eyes examined on the appearance of the slightest discomfort.

(*b*) By those surrounding the patient, by an increased flow of tears, frequently by a purulent or mucoid secretion; the latter need not, however, be very great. Frequently the lids and the white of the eye are slightly reddened; the upper lid droops somewhat.

If the lower lid is drawn down and the conjunctiva inspected, the latter will be found reddened in various degrees, swollen, and containing in recent cases numerous grayish-yellow or grayish-red granular deposits which are somewhat prominent. After the disease has existed for some time their place is taken by whitish scars; the conjunctiva seems shortened and is not as glistening as in the normal state. When the cicatricial formation is great the edges of the lid may be curved inward, the cartilage of the lid crippled, so that the eyelashes come in contact with the eyeball and produce friction, especially over the sensitive cornea. The same may take place in the upper lid, but is more difficult of inspection to the layman.

In very grave cases, the cornea, which is otherwise transparent, will be covered by a membrane (pannus), and very deep and painful ulcerations may then occur here.

Only a physician will be able to recognize and differentiate the disease from similar affections, and he should be consulted in suspicious cases without delay.

4. The following should be noted to avoid contagion:

(*a*) Everyone should make it a rule never to use handkerchiefs, towels, washing utensils, bed-clothing, or tools of strange persons. Persons with eye affections should be doubly careful.

Every patient suffering with an eye disease should most carefully avoid bringing his secretions in contact with others; he should use only his own linen, water, utensils, etc., and should frequently wash his hands in soap and water.

(*b*) Where a large number of workingmen and women live together in one habitation it is strongly recommended that they first have their eyes examined by a physician. If any diseased eyes are found these persons must under all circumstances keep their own washing utensils, towels, and bed-linen, and should be isolated where possible.

(*c*) Where patients suffering with trachoma are found having a watery or purulent discharge they should be treated daily by the physician himself, that they may be cured with the greatest celerity. It is unnecessary to keep patients suffering with trachoma from working together with others when no discharge is present, but they should have their own utensils, etc.

School children, if attacked, must be kept from school, and the eyes of the other children examined by a physician.

ETIOLOGY OF CONVULSIONS IN CHILDREN.

A. M. GOSSAGE and J. A. COUTTS (*New York Lancet*, 1899, No. 10, 348) in an article on Convulsions in Infancy, say in speaking of the etiology:

The causes of convulsions are most conveniently divided into predisposing and exciting, of which the former are the more important. It may, however, be difficult to say with which particular class, predisposing or exciting, many of the causes should be placed.

All writers on the subject place foremost amongst the predisposing causes what has been termed "instability," or "irritability of the infantile nervous system." Owing to the incomplete development of the higher controlling centers, it is certain that an explosive nerve discharge may result from slighter stimuli, peripheral or central, in infants than in adults. This instability disappears with advancing age and further development of the higher centers. We consider, however, that too much stress has been laid on this instability of the infantile nervous system. Such "instability" is naturally common to all infants of the same age, and should be equal for the same stage of development. It is, nevertheless, only the exceptional infant that suffers from convulsions, while the majority escape even when exposed to the most powerful exciting causes. Still by far the greater number of infants who have suffered from convulsions exhibit no trace of neuroses in after-life; this fact, we admit, is evidence in favor of the prevalent belief in the greater instability of the nervous system at the infantile age.

An inherited neurotic tendency is one of the most important of the predisposing causes, if not the most important. It is not uncommon to find certain families where the majority of the children, and in some families all the children, suffer from convulsions in infancy. Such a common tendency must have been derived from a parental source. Statistics published by one of us gave a neurotic history in the parents in 32 per cent. of cases of infantile convulsions, and where the occurrence of convulsions in the patient's brothers and sisters was taken as evidence of definite neurosis, the neurotic percentage amongst near relatives rose as high as 67 per cent. We believe that the importance of the family history has not as yet been sufficiently recognized and acknowledged.

Rickets is admittedly a frequently disposing cause of convulsions, and a very large percentage of infants with convulsions are rachitic. Only a small proportion of rickety children, however, suffer from convulsions. Amongst 54 children with rickets recently seen by one of us as out-patients at the Shadwell Hospital, convulsions only occurred in 4, that is, 7.4 per cent., and we are inclined to believe that this proportion is higher than the normal. In rickety children convulsions are frequently associated with tetany and laryngismus stridulus. It is probable that the brain suffers with the general malnutrition of the body in rickets, and that it is to this malnutrition of the brain that convulsions, tetany, and laryngismus stridulus are due. This being so, one would expect convulsions to be more frequent in those more severe cases of rickets in which craniotabes occurs. We thus get a simpler explanation of the frequent association of craniotabes and convulsions than is afforded by supposing that the convulsive phenomena are caused by pressure on the softened areas of skull.

Exciting causes may originate in local disease or injury of the brain or its membranes. Thus concussion of the brain may cause convulsions, or convulsions may be started by hemorrhage into the brain, cerebral abscess or tumor, and meningitis, and they are frequently associated with those developmental deficiencies and abnormalities which result in idiocy. Convulsions which date from birth are generally due to meningeal hemorrhage, and so are frequently associated with spastic paralysis and followed by amentia. The symptoms of cerebral tumor in young children often present themselves with a startling abruptness, and convulsions at the first may be bilateral in character, and this may afford no evidence of any value as regards localization. The first prominent symptom of meningitis may often be convulsions, which not infrequently are unilateral at the onset. Venous engorgement of the brain, the result of violent coughing, and the exactly opposite condition, cerebral anemia, whether resulting from hemorrhage or any exhausting disease, may equally give rise to convulsions in infants.

Uremia is a recognized cause of convulsions at all ages, but it is of exceptional rarity under two years.

It is asserted by nearly all writers that acute diseases, especially those in which a sudden rise of temperature occurs, such as croupous pneumonia and the exanthemata, are frequently ushered in with an attack of convulsions in young children. We consider that the frequency of such an occurrence has been largely overestimated. Carefully compiled statistics, by three separate observers, show that convulsions do not occur in more than 5 per cent. of all cases of croupous pneumonia in children.

Peripheral nerve irritation, especially in the form of teething troubles and bowel disturbance, has been almost universally advanced by the profession and accepted by the lay public as by far the commonest cause of convulsions in infants. Of late, however, much more caution is shown in ascribing convulsions to such trifling causes alone, and modern writers lay an increasing stress upon the predisposing over the exciting causes. In very exceptional instances teething or bowel disturbance may be solely or directly responsible for convulsions; but in the huge majority of cases they are entirely dependent for their efficacy upon the presence of a predisposing cause, such as rickets or a neurotic disposition. Severe surgical injuries, and extensive burns, however, sometimes excite convulsions in young children in whom a predisposing cause is apparently wanting.

Asphyxia is one of the most powerful exciting causes of convulsions at all ages. This is in strict agreement with physiological experiments on animals and with clinical experience with human beings. The convulsions arising during the course of diseases where there is interference with the respiratory functions are more certainly due to asphyxia than to any other factor in such complaints.

PEDIATRICS

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ORIGINAL ARTICLES

THE HYGIENE OF CHILDREN'S SLEEPING APARTMENTS.

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THE hygiene of sleeping apartments is an old subject. It has been touched by able hands in the past, but the benefactors who raised their voices in behalf of the poor have passed on disregarded and unthanked, to find in other quarters clients who are better prepared to receive and appreciate such advice, but also perhaps less in need of it. The children of the poor still spend half their lives in dismal, unhealthy sleeping apartments. This is sufficient excuse for the present writer.

The following remarks are the result of daily observations made on the habitations of the working people of the west side. They are by no means the poorest and worst off portion of our people. The writer's experience with the latter class has been limited, but he has seen enough to make him wonder why the State cannot, by virtue of its police power, put an end to such a condition of affairs, just as it confiscates bad food and pulls down dangerous buildings.

When the physician is called to a sick child there is usually a little fuss made over "the doctor." He is ushered into the best room in the house, whither the child is brought screaming and terrified. This is a reprehensible practice. It is better for the physician to insist on being allowed to enter the child's room quietly and unannounced. This will give him an idea of the child's condition in repose. On entering the room the heavy odor of impure air is the first thing noticed. There is generally great difficulty in finding the little patient until one's eyes become accustomed to the darkness, and then one is likely to find him hidden in a corner of a huge bed that almost completely fills the room. The size of this bed is significant, for if one calls at night it will be found that the bed is taxed to its utmost capacity with occupants. The writer is by no means of the timorous kind, yet he has never entered one of those dark "middle rooms" without serious misgivings. Sunlight is shut out, pure air cut off, there is one way of entrance and exit, without room to turn. It gives the impression of a dungeon in the old European castles, and, everything considered, the writer would prefer to take chances with his patient in one of these same old castle-dungeons than he would in one of these tenement middle rooms.

This deficiency in cubic space to the exclusion of light and air is deplorable. The need of fresh air in sleeping apartments has been much insisted upon, but not sufficiently so in the case of children. The amount of work done by children running about in day-time, the metabolic activity of their growing bodies, their mental activity, the access of new impressions, the deficiency of control in the higher centres which have not as yet acquired their full mastery—all demand oxygen most imperatively during the hours of repose, when the work of reconstruction is going on and the exhausted neurons are recovering strength and substance. Adenoids and nasal obstructions enhance the pernicious influence of deficient cubic space, and are themselves in turn aggravated and perhaps sometimes caused by it. The writer has had many opportunities to observe children sleeping in such narrow apartments. The children were always restless, though hard to be aroused. They were generally dreaming and muttering, and oftentimes writhing in convulsions. On one occasion three children were observed in the same bed. The oldest was a girl of ten. She seemed to sleep soundly. The other children, aged two and four, respectively, slept restlessly with the mouth widely open. They muttered constantly and tossed their heads from side to side, and finally became rigid from head to foot, evidently convulsed. This condition lasted from one to three minutes. The children slept (?) all through the attack which was repeated in one of them inside of half an hour.

It is said that horses, if they are not allowed proper time for rest, will sleep while being driven. Many a poor man's child does at school practically what the overworked horse does, and gets punished for it. A visit to the school-room is always interesting to the physician. He is sure to find some tired children whom the teacher would doubtless pronounce lazy. If these children be observed they will be found pale and stupid-looking; mouth-breathers, perhaps suffering from nasal obstruction. Through no fault of theirs, they are deficient in mind and body, and they are whipped for it in the name of progress and education. Was there ever a grosser injustice?

A little boy runs around and tosses and tumbles in daytime until at night he is exhausted and sleep and rest are needed. Then he is put into a crowded, dark, stuffy room to pass the night in a restless, semi-stuporous condition, tortured by dreams and nightmares. Is it any wonder that such children are deficient in intellect? When health, food and comfort come to other children without effort, as the bloom comes to the flower, it is easy for them to develop their minds, but beside these we have the wretched children of the poor who seize their only opportunity to get in the schoolroom the much needed rest and air for their exhausted little bodies. To urge such children is a crime of our own making and toleration. We are advancing civilization at a terrible sacrifice. But now that there are physicians to superintend schools it is to be hoped that they will do their duty by these little martyrs.

The difficulty of ventilating the windowless middle room is apparent, but sometimes mothers triumphantly point out that the door of the adjoining room is left open with nothing separating the rooms but a curtain. Now even a *portière* has a wonderful effect in deadening air currents which are so essential to ventilation. Moreover the air in the next room is generally but too scant to supply the demand of its own occupants.

Many apartments on the west side consist of three rooms. One, the largest and best lighted, is set aside for a parlor. Next to this room comes the kitchen. Off the kitchen we find the middle room dungeon. This arrangement delights many people. It is so warm and comfortable! The fire in the kitchen is so convenient! How long will it take people to realize that pure air, be it hot or cold, is not of itself dangerous; and that impure air, like impure water, be it ever so clear and grateful to the palate, carries disease and death?

This proximity of the kitchen stove is a dangerous condition. Stoves of the American variety have been pronounced by high American authority to be "an abomination." It is well known that our present means of utilizing coal for heating purposes is rather extravagant, for at best by direct combustion we can turn to advantage only about 3 per cent. of the energy available. The stove has been hailed as an economizer. All appreciate the necessity of economy in coal, but it is a matter of regret that science has as yet not been able to economize by securing a more complete combustion in the stove. It is in this incompleteness of combustion that the great objection is to be found to stoves.

The chemistry of the combustion of anthracite coal may be represented in two steps, thus:

$$C_2 + O_2 = 2\ CO$$

This represents the incomplete combustion that too frequently occurs with the carbon monoxide which is a poisonous gas. If there be time and heat sufficient and oxygen available the process continues, and we get the carbon monoxide uniting with more oxygen to complete the combustion, with a harmless product, carbon dioxide, thus:

$$2\ CO + O_2 = 2\ CO_2$$

With our present methods it always happens that combustion is more or less incomplete. If now we are dealing with a self-feeder or one of those big drum stoves such as one sees at country railroad depots or at elevated stations in this city, much of this carbon monoxide escapes into the room. If there be a damper, as there usually is, it will make the amount that escapes all the more. The same escape takes place in kitchen stoves when the damper is turned on or the covers removed "to shake the fire."

The effects of such economy unfortunately can only be adaquately appreciated by the physician. It is true that in the elevated stations one frequently meets the treacherous odor of this deadly blood-poison, but the fears of the people are allayed if they see a couple of pints of water on the stove to "absorb the gas." It is unfortunate that carbon monoxide has not the color of nitrous oxide fumes, for then the people might recognize more readily the presence of this injurious substance.

A word about the effects of carbon monoxide. Like oxygen, this gas unites with the hemoglobin of the red blood cell, but unlike oxygen it forms a stable compound with it, thereby rendering the cell for ever after incapable of performing its chief function of oxygen carrier between the lungs and the tissues. It permanently paralyzes the red cell. Further comment is unnecessary. If the poisoning continues anemia, ill-health and death directly or indirectly must ensue. The importance of the partial combustion of coal should be readily appreciated, more especially in the small, poorly ventilated apartments of the poor. Children not only suffer from a lack of pure air, but also from a positive destructive agent in the form of carbon monoxide.

Apropos of the subject of stoves, a word about gas stoves. It appears that for once our generous medical brethren have forgotten to avail themselves of an opportunity to do a lasting service to an ever ungrateful public. It can hardly seem possible that gas-stoves have been making such headway, insinuating themselves into homes, destroying the health of the people, and that the medical profession even at this late hour has not been up in arms making war on them.

The gas stove as a heater has many drawbacks. It is a great consumer of oxygen, besides discharging its products of combustion into the air that we breathe. It is bad enough for us to have to breathe over and over again the same air under poor conditions of ventilation, but here we have to breathe second-hand air after the insatiable gas stove. Moreover, coal gas is poisonous, as can be seen from its popularity as a means of suicide. Carbon monoxide is one of its constituents, and we have much to dread from its escape through defective tubing or from its running the gauntlet of the burners unconsumed. The writer has seen cases of anemia in children that proved very obstinate until the gas stove was removed from the rooms in which they slept, when recovery was prompt.

Many things might perhaps be urged in favor of the gas stove, but as a heater of apartments and in its present form it is little short of murderous.

Sleeping apartments should not be swept while patients occupy them. Sweeping is at best, but a poor way of removing dirt and dust from rooms and is always dangerous. The better method is to go over the floor and furniture in the early morning with a moist cloth, which can be afterwards boiled. This is the simple and scientific way of removing dust and dirt and at the present time the best and most practical.

Doubtless many practitioners have found, like the writer, that as soon as a member of a family living in the tenement districts has recovered or died from a contagious disease, and almost before the Health Board has gone through the ceremony of disinfection, the people pack up and move to other quarters. Then new unsuspecting tenants move into the recently disinfected premises, only to wonder in the course of a few weeks where on earth their child could have contracted scarlet fever or diphtheria. The Health Board, do what it may, can never hope to effectively disinfect premises while they are occupied. The old sulphur method is but a hollow ceremony at best. Now, with all due deference, the writer begs to offer a suggestion. Since it is impossible to disinfect a house while it is occupied, why should not the Health Board make a thorough attempt at disinfection by entering every house or set of apartments when they are vacated by moving parties and thoroughly disinfecting the premises with the most effective means possible? Then every nook and cranny can be reached. There will be no objection on the part of the people, and the delay of a few hours will be well repaid.

It would greatly assist the Health Board if the people were informed that it is the duty of a landlord to inform prospective tenants if a member of the previous tenant's family had been afflicted with a contagious disease, and that in case the landlord failed to make such disclosure the tenant would have a cause of action against his landlord in case he or any member of his family thereby contracted disease and suffered loss.

The best cure of disease is its prevention. The method of disinfection suggested seems practical, and no expense should be spared in order to strike an effective blow at the great scourges of infancy and childhood.

The conclusions to be reached are:

1. Windowless middle rooms should be abolished.

2. The best room in the house should be used as the bedroom.

3. Bedrooms should be properly ventilated during the night.

4. Bedrooms should not be swept, but mopped with a moist cloth.

5. Kitchen and gas stoves are to be reckoned with no less than adenoids and nasal obstructions in treating various diseases of infancy and childhood.

6. Backward children should be protected by the physician.

The purpose of these remarks will have been fulfilled if they help the practitioner to remember the sleeping apartment in treating the diseases of childhood, and above all if they help him to do his whole duty by the poor, for the little they give us comes to them hard. He may not be heeded nor thanked for it, but surely it is worthy of the noblest intellect amongst us to endeavor to fulfill his mission, by preaching and practising the gospel of science and health.

438 West 44th Street.

CRETINISM, WITH A REPORT OF A CASE OF THE SPORADIC VARIETY.

By Christopher Graham. M.D.,
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THYROID therapy has found a stable and scientific basis. The experimental physiologist, the physician and the surgeon each may claim a share of the honors. The physiologist ranks first, for his deductions were established by method and fact. The surgeon taught through operative errors; the physician, profiting by the well directed labors of the former and the well meant operations of the latter and in part by his personal observations, drew conclusions that hastened the advanced doctrine. Wolfstein says that "among the many great achievements of this great century may be surely ranked the benefits which humanity has received from the recognition of this doctrine," organ therapy, and further: "None of the internal secretions, the seminal fluid excepted, ranks the thyroid in potency."

In cretinism thyroid treatment finds a fruitful field of usefulness; it has already accomplished much and promises everything. Cretinism, with which I propose chiefly to deal, has been so modified through this therapy that its most frightful aspects have been well nigh lost.

Two forms of cretinism are recognized, the endemic and the sporadic. The former finds mention in the sixteenth century, the latter was first clearly distinguished by Fagge in 1871.

The endemic form has occurred in various parts of Europe and Asia, especially in the valleys of the mountainous regions. Hirsh states that it is also found in Vermont, Massachusetts and California, but Osler, who has carefully studied cretinism in America, fails to corroborate this statement.

The sporadic form, however, has been reported from various parts of the United States, and these reports have rapidly multiplied since 1893, at which time Osler made a collective report of eleven cases. In the two forms the characteristic symptoms are so nearly alike that Osler's definition, embracing both, is a good one: "A chronic affection characterized by disturbance of the growth of the skeleton and soft parts, a remarkable retardation of development, an extraordinary disproportion between the different parts of the body, a retention of the infantile state,' with a corresponding lack of mental progress."

There are, however, differences which have led some observers to class these two affections as independent. The endemic form is usually accompanied by goitre, the sporadic is much more rarely so accompanied. In fact, absence or atrophy of the thyroid is the rule. Morel, Curling and Fagge, as well as many later observers, agree that goitre is the first of a series of degenerations leading to cretinism.

Bircher says that thyroid feeding has less effect on the myxedematous condition of the endemic type, but this has not been fully established. However, the goitrous condition is relieved if calcareous degeneration has not taken place, and doubtless futher observations will show that the myxedematous condition will likewise yield. Dentition is more delayed in the sporadic form. The endemic form arises in certain localities and seems to have something of an infectious nature; it is said also to be due to drinking water which possesses some organic or inorganic poison or is lacking some virtue which otherwise would prevent such abnormal development. Again, the skeletal development shows differences. The long bones are more slowly developed in the sporadic form; the sutures and fontanelles are slower to close, being often open as late as the tenth year.

There are other minor differences as shorter life and gentler disposition in the sporadic form, but despite all these it is generally conceded that the same cause or causes act to produce both forms.

The function of the gland is variously discussed. Horsley says that it is a blood-forming organ; Schiff, that it secretes a substance that influences the nutrition of the nervous system. Kinnicut says that we must accept one of two theories: *First*, that it secretes a substance which enters the circulation through the lymphatics and which is essential to the chemistry of metabolism and for proper nutrition of the various tissues. *Second*, that it produces an antitoxine to neutralize or destroy poisons that are developed during tissue change and by collecting in the blood produce autointoxication. Whatever the nature of the secretion, development, mental and physical, is largely dependent upon it.

As to the pathology of the disease little is positively known. There are, in the sporadic form, three conditions of the gland noted by various observers. One, where the gland is absent congenitally or wasted in early life. A second, where the gland is atrophied or perhaps functionless. The third, where goitre exists along with cretinous symptoms. The pathology is, however, closely allied to or identical with myxedema, operative or idiopathic. Post-mortem cases of natural myxedema have always shown an atrophied gland. The walls of the vesicles are infiltrated with embryonic tissue and chronic thyroiditis is evident; connective tissue increases throughout the body; fat usually develops subcutaneously; epithelial cells block the tubes of the sweat glands; blood and skin show excessive mucin. Whatever may be the true pathology of the cretinous state, certain it is that a functionless thyroid, or a perverted secretion is back of it all.

The symptoms usually appear appreciably from six months to five years after birth. In the developed state they are striking and repulsive; mental and physical development retarded; a head large for the body, misshapen, scantily covered with a coarse, yellowish growth of hair; a bloodless, yellowish-green complexion, low forehead, eyes apparently small, with swollen lids and edematous surroundings; nose flat and broad between the eyes with nostrils dilated; thick lips, lolling tongue, dribbling saliva; perhaps toothlessness; ears deformed and protruding, a short, bull-like neck and an often absolutely expressionless countenance.

Subcutaneous fat is abundant and supraclavicular deposits frequent. Muscles soft and flabby; limbs often crooked and the ends of the long bones enlarged; protruding abdomen increased by lumbar lordosis; when able to walk the gait is tottering and awkward; fingers and toes short and stumpy, giving broad hands and feet; skin is dry and perspiration scanty; speech comes late or not at all, and the voice is coarse and rasping. Puberty is delayed; circulation poor, as shown by cold blue hands and feet and subnormal temperature. All movements slow and apathetic. Often these patients sit for hours oblivious of surroundings.

The diagnosis offers but little difficulty in a well-developed case. He who has read the ordinary text-book descriptions and has seen the cuts usually accompanying them, will rarely fail to make a correct diagnosis. Small stature, disproportion of parts, peculiar facial expression, stupid manner, fatty deposits, subnormal temperature and poor circulation are quite sufficient to permit a diagnosis.

Putnam says that there may be disorders of nutrition or irritative nervous symptoms unaccompanied by myxedema due to deficient or perverted thyroid action, and that we may yet learn to recognize affections that lie between myxedema and health, as well as the disorders of development and nutrition for which the thyroid is now known to be more or less responsible.

Regarding the primary causes that destroy the gland or pervert its function, we have little or no understanding. Whatever these primary causes may be, there is common agreement that the condition is due to mal-development of the thyroid gland, its absence, atrophy, or hypertrophy, perverted or abolished secretion; that the trouble manifests itself either in early embryonic life, appears at birth or soon after, or is delayed until late childhood. Bircher lays blame chiefly to drinking water. Ewald, however, says that water alone is not the sole cause of the disease, but that certain hereditary tendencies, together with bad hygienic surroundings and poor social conditions combine to produce it, or aid greatly in its production. Kocher says, both goitre and cretinism may be inherited from parents who show no thyroid disease but the function of whose gland has undergone some change. Judson, Bury and Munson emphasize intermarriage as a fruitful cause, while Langdon Downs considers alcoholism a strong causal factor, especially if active at the time of the procreative act.

Treatment.—As in idiopathic myxedema, cachexia strumipriva, infantilism and the like, so in cretinism thyroid therapy has wrought marvelous changes and demonstrated the value of experimental therapeutics. Through the number of cases treated and reported it has been clearly shown that thyroid treatment offers the greatest good to the suffering cretin.

The capabilities of treatment are: *First*, removal of the myxedematous condition; *second*, quickening of physical development; *third*, awakening of the intellect. The myxedematous condition is rapidly and often fully reduced, thus removing the most unsightly symptoms which mark these unfortunates.

Dr. H. C. Wood, in discussing the loss of body weight in the allied conditions through thyroid action, says: "The various researches are sufficient to warrant the conclusion that thyroid treatment decreases body weight in part by causing waste of nitrogenous tissue, but to a greater extent by wasting the carbohydrates." Rapid physical development is, perhaps, the most marked remarkable effect of thyroid feeding. This is seen especially in the long bones, and so profoundly does treatment affect the tendencies of growth, though years have elapsed since growth was manifest, that it is again remarkably quickened.

Telford Smith points out the tendency to bending of the bones, especially the long, during thyroid treatment, and urges care in overtaxing the limbs at this period, or advises the use of splints to avoid such deformity. Food is given in quantity and quality to meet the demands of increased growth, and sunlight and air in abundance.

The mental condition is slowest to respond and it is difficult to say how far we may reasonably expect such development to obtain. However, cases are reported where improvement has been apparently complete and many where comparison with the normal is favorable.

Speech also is favorably affected. Where the language consisted of harsh rasping grunts, words and sentences were gradually acquired; while some report cases where speech became distinct and event fluent.

It is a common observation that the shorter course this disease has run and the younger the patient toward whom treatment is directed, the more nearly perfect the final result. Therefore the plea of Koplik for early diagnosis and treatment is pertinent. Other effects of treatment are softening of the skin, abundant and silky growths of hair replacing hair coarse and scanty, and the rapid progress of delayed dentition.

Treatment must be continued throughout the entire life of the individual, otherwise relapses occur. It is sufficient in most cases to give a large weekly or bi-weekly dose after distressing symptoms are relieved. The dose for a child varies from one-half to one grain, at the beginning, gradually increasing to five or more, while keeping track of any untoward symptoms and decreasing the dose or discontinuing it for a time, then resuming with less amount. Cretins bear thyroid better than adult myxedematous patients, but the effect is the same, therefore treatment is safer in the former than in the latter.

Danger signs are increased temperature, rapid pulse, insomnia, restlessness, digestive disturbance, dyspnea, muscular twitchings and tremor. Early signs of improvement are lessened stupidity, improvement of the myxedematous condition, mental and physical awakening and attempts at speech.

Report of Case.—John M., born October 13, 1891, first seen June 9, 1897, aged 5 years, 8 months and 26 days.

Family History.—Parents both born in Germany, of healthy stock, medium size, average mental ability. No hereditary taints obtainable; no history of cretinism or goitre on either side save an aunt that developed goitre of one lobe during a pregnancy. The father drinks somewhat. Age of father and mother 42 and 36 years respectively. Have had 8 living children, from 12 years to 8 months old, and all normal except the one reported. One died of whooping-cough in infancy.

Labor reported normal and easy, lasting little more than one hour. The child nursed six months, then was fed with milk from a spoon as he refused the bottle. From the sixth to the ninth month the mother began to notice that he was not right, that the tongue protruded, that the lips were thick and he was slow intellectually, that he had a poor appetite, refusing everything except milk and bread. The appetite continued poor well into the first year of treatment. This child has had measles and whooping-cough; the latter was especially severe. The mother says that he took not even a swallow of milk for nine days, and what surprised her most was that he kept fat the whole time. He was always constipated; sweated but little. Cut first tooth at nine months, and slowly developed more until after treatment, when dentition was much more rapid, patient cutting the last baby teeth in May, 1898.

When first seen, June 9, 1897, the following was noted:

Child had never attempted walking, limbs not deformed but short and thick; diet had been little else but bread and milk; constipated; teeth few and decayed; fontanelle widely patulous; thyroid gland could not be palpated; head large and square; face swollen and expressionless. The forehead seemed low, eyes small and widely separated. Nose flat at roof, turned up at end and nostrils dilated. Lips thick and tongue protruding, hair thin and bristling. Abdomen markedly protruded and lumbar lordosis greatly exaggerated, skin dry and scaly, anemic and greenish-yellow.

Appetite poor and digestion capricious, head could not be held steady, muscles weak. Sweat but little, temperature subnormal, child always cold and seemed sensitive, taking cold easily. No speech, not even words, harsh cries the only language.

Diagnosis of cretinism made and powdered thyroid given, one-half grain three times a day. At no time has the dose been more than three grains daily, because the child living at a distance could not be under observation. Had the child been carefully watched and large doses provided, I am confident the results would have been much more nearly perfect and rapid, if not more marvelous.

During the later winter the child began to walk some and said several words, but owing to bad weather the parents did not return for medicine and the child relapsed in so far that walking and talking ceased and myxedema began to show. On returning the dose was increased to three grains per day, and rapid improvement followed.

Present Condition.—Fontanelle almost closed; hair thick, soft and normal; skin smooth and soft; eczema of head, face and lids nearly gone; eyes apparently larger and brighter; nose improved; lips thin; tongue normal and wholly within the mouth; first teeth all present but very much decayed; temperature normal and child sweats easily; myxedema almost disappeared; lumbar lordosis slight; abdomen normal. To use the mother's words, "John was always so bloated, now he is like other children." Walks everywhere unassisted, and is difficult to care for as he often runs away. Is again saying a few words. Appetite excellent, eating all ordinary food, and digestion perfect.

Spleen and liver not enlarged; constipation overcome.

The most marked feature is growth. The first loss in weight so often noticed was scarcely manifest in this case, and I attribute it to the small initial dose so that the loss in the myxedema kept pace with the natural gain due to the good effect of the drug. The child has gained ten pounds in weight and but a fraction less than six inches in height, though apparently much more. Apparent gain is due, I am sure, to increase in muscle strength, thereby straightening the skeleton and improving the lordosis. The child is now fairly bright and playful and answers to his name. Not difficult to amuse and smiles cheerfully.

Subcutaneous Injections of Gelatin in Hemorrhagic Purpura.—In purpura with repeated epistaxis and hemorrhage from the gums in two girls, aged respectively 13 and 20 years, Dr. V. ARCANGÉLI, of Rome, made use of a sterilized 2 per cent. solution of gelatin in normal salt solution. In the first patient two injections of 20 c.c. each, made at intervals of twenty-four hours in the subcutaneous tissue of the abdomen, sufficed to stop the hemorrhage from the gums and nose completely. In the second case tne same result was obtained likewise after two injections, the first of 15 c.c. and the second of 10 c.c.—*Sem. Med.*

FIVE YEARS' EXPERIENCE IN PRIVATE PRACTICE WITH DIPHTHERITIC ANTITOXIN SERUM.*

By Frank W. Wright, M.D.,
Health Officer, New Haven, Conn.

SEVERAL times before I have reported upon small numbers of cases of diphtheria that have received the antitoxin treatment and have expressed my opinion of the value of the remedy. Now I desire to add the results of a systematic record of a large number and state the view this record compels me to take.

Since January 12, 1895, I have treated with the diphtheritic antitoxin serum 268 cases of diphtheria and have recorded as they occurred the results of the treatment together with other facts of interest that I have observed. The result of this five years' experience is somewhat disappointing, as it seemed several years ago that this remedy must be accepted by all practitioners of medicine as the one and only treatment for diphtheria, and consequently it would be used in every instance as soon as the diagnosis was made. That the percentage of recoveries among my patients was not larger, can be accounted for by the fact that by far the larger part of them were seen in consultation only when they had been in progress several days and their condition was considered unfavorable. Many physicians are so conservative as regards this remedy that they only consent to its use as the last resort. The most ardent supporters of this treatment have always urged that it be used early and in large quantities, as the results were very uncertain after the disease had been progressing more than forty-eight hours. To one who has seen any considerable number of cases of diphtheria treated with antitoxin, it seems as if its value must be beyond dispute and that anyone who denies its advantages must be biased by prejudices that could not be overcome by any amount of proof. The writer does not propose to argue upon the value of this remedy but simply to detail what his records show, comment upon this, and state what his experience with this large number of cases leads him to believe.

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* Address of President of New Haven Medical Association, January 17, 1900.

Those receiving this treatment have been divided in four classes: (A) being those whose environment was of the best and the care most perfect; (B) being those getting good family care and under sanitary conditions; (C) ordinary care, such as any poor but intelligent family might give, while those of (D) had only the poorest care and unsanitary surroundings.

Of class A there were 33 cases and 6 deaths; of class B, 60 cases and 7 deaths; class C, 95 cases and 17 deaths, and class D, 80 cases and 29 deaths. It will be seen that about two-thirds had at the best only ordinary care and nearly one-third only the poorest. As regards sex, the patients were nearly evenly divided, there being 135 males and 133 females. The oldest person treated was 45 years of age, the youngest 3 months. At the time the antitoxin was administered the physical condition of 91 was good, of 90 fair, and of 87 bad, about evenly dividing the cases as regards their condition at this time; yet of those in good condition all but three recovered; and of those whose condition was fair 77 recovered and 13 died; while of those that were bad, 43 died and 44 recovered.

The duration of the disease at the time treatment was begun I have divided by calling those cases that had existed less than twenty-four hours, one day; between twenty-four and forty-eight hours, two days; and all over that time, several days. This latter was necessary, as when the disease has been present over forty-eight hours it was nearly always impossible to obtain a definite idea of its duration, and the beneficial action of the remedy was uncertain.

Of those to whom antitoxin was given upon the first day 12 died and 99 recovered, an approximate mortality of 10 per cent.; on the second day 9 died and 58 recovered—15 per cent. mortality; of those after the second day 37 died and 51 recovered, making a death rate among these of over 72 per cent. or a mortality of 11.8 per cent. of those to whom antitoxin was given within the first forty-eight hours of the disease.

These facts appear to be conclusive proof that the mortality is very largely influenced by the physical condition and duration of the disease at the time of administration of the remedy and by the subsequent care of the patient.

There were 121 cases in which the larynx was more or less involved, in 43 of which the membrane appeared in no other location; and in 78 there was an exudate either upon the tonsils, pharynx, or in the nose. Of the 121 laryngeal cases, 68 were intubated, 43 of whom recovered. Upon 1 tracheotomy was performed, but this case proved fatal on account of the membrane extending beyond the reach of the tube. The severity of the disease does not depend upon the part invaded as far as the tonsils, pharynx, or larynx are concerned, except as the membrane in the latter location interferes with respiration; but the nose seems to be involved only in malignant cases.

My records show the disease to have been in the nose in 30 cases, and that 17, over 50 per cent., proved fatal. In these cases I am inclined to believe the disease exists some time before it is noticed by the friends of the patient and that any noticeable illness is usually attributed to a cold in the head. I also believe these cases to be more contagious, as the infection is more likely to be distributed by the nasal discharge. Hemorrhage is also apt to be a complication when the nose is involved.

To the 268 patients, 359 injections were given. The largest number of doses given were to cases one and three, who each had four injections. Cases 5, 7, 33, 38, 75, and 97 each had the remedy three times. None of the other 260 had it more than twice, and 186 of them but once.

In the first 41 cases the quantity of antitoxin used was determined by cubic centimeters, but in all subsequent cases by antitoxin units. Of the former, the largest quantity used was 60 cc., probably from 2,500 to 3,500 units, and of the latter the largest quantity was 6,000 units and the smallest 1,000 units.

The complications met with were, pronounced septic infection in 51 cases; broncho-pneumonia in 6, nephritis in 3. My records show paralysis in but 5 instances. This, I am certain, does not give the correct number of those who had paralysis to a limited extent, as I have several times learned of this trouble coming on several weeks after the patient had passed from my observation. It may be interesting to record, but I believe of no scientific value, that two patients who had been intubated successfully, died several months later from meningitis.

Of the 268 persons treated with the diphtheritic antitoxin 209 recovered and 59 died, a mortality of 22 per cent.

The causes of death were in 34 cases intense septic infection, the antitoxin having been used in 24 of these later than the second day; in 8 exhaustion, either from stenosis or refusal on the part of the patient to take nourishment and stimulants; in 3 gross neglect; in 4 broncho-pneumonia: in 1 pericarditis; in 3, operative cases, on account of the membrane extending beyond the reach of the tube; and in 5, accidents of operation, classed thus: one patient having coughed out the laryngeal tube died of asphyxia before it could be replaced; three died suddenly on account of the lumen of the tube having become occluded by loosened membrane; the fifth, an Italian child, who had been intubated and was doing nicely, died because the tube was removed to comply with the demands of the parents, who insisted that the tube was killing the child; one died suddenly about twelve hours after the antitoxin had been administered, for which I have never been able to satisfactorily account.

A number of years ago, in reporting 50 cases of diphtheria treated by this remedy I stated that I believed we had a remedy of great value, and I am still of that opinion. Its benefits to mankind are second to no other remedy except, possibly, vaccination.

There will always be cases of this dreadful disease that cannot be cured, but when it is used early and in large doses, when the physical condition is good and the care of the best, it is almost certain in its action. Its failure to benefit the disease is directly as these conditions are wanting. It cannot repair any injury already done, but if the amount is sufficient in antitoxic strength, it can prevent further infection. I believe one large injection to be vastly superior to several small ones. I am not influenced in my dosage by the age or size of patient, but by the physical condition, extent, and location of the membrane, never using less than 1,500 units and seldom more than 3,000 units. The mortality is reduced by it under all conditions, but when given early and in large quantities the reduction is greater. Its beneficial action is most noticeable in laryngeal diphtheria, it often preventing the necessity for operation, and in operative cases it greatly lessens the mortality. There is less liability of nephritis being a complication or a sequel. It prevents serious paralysis. I have never seen a sudden death from paralysis of the heart after its use, but without it I have known of many such deaths, even when the patients were apparently convalescent.

There appears to be no danger from its use, and the only disadvantage is that it causes a localized painful spot in the vicinity of the place of inoculation. I have never observed pain in the joints. Urticaria frequently followed the use of this remedy in the earlier cases, but since antitoxin has been produced in a more concentrated form, I have never seen it.

My conclusions are that diphtheritic antitoxin serum usually cures favorable cases and often unfavorable ones, it prolongs life, lessens the severity of the disease, tends to prevent stenosis and the need for intubation in laryngeal cases, and when intubation is necessary it lessens the mortality; it prevents complications and sequelæ and materially shortens the course of the disease.

Catarrhal Laryngitis.—

℞	Antimonii et Potassi Tartratis	gr. 1/20
	Liq. Ammon. Citr. (Br)	min. x
	Elixir Aromat	min. v
	Aquæ	q. s. ad f℥j

Met. Sig.—Every four hours, for a child of two or three years.—Ashby and Wright.

A FATAL CASE OF CARBOLIC ACID POISONING IN AN INFANT, DUE TO ABSORPTION BY THE SKIN.

By R. Abrahams, M.D.,
New York.

INFANT S., male, 7 days old. It came into the world without instrumental or other interference. The mouth was clean, the heart was normal, the lungs sound, the head well shaped and of normal size, the bowels moved naturally; the child passed urine well, and nursed nicely. The cord dropped off on the fifth day, leaving the usual appearance of the umbilical depression.

About 10 o'clock in the morning of the seventh day, while being dressed by the nurse (untrained), the babe was suddenly seized with violent, general convulsions. A physician was hurriedly summoned, who ordered a soap-suds enema and bromides by mouth. Two hours later I saw the child. The convulsions were still present though less severe. There was great dyspnea, the respiration being shallow and labored; the face was extremely cyanotic; the pulse was so rapid and feeble that counting was out of the question; the pupils were contracted to the size of the point of a pin; reflexes, corneal and anal, were not responsive; the whole body was covered with a cold sweat, though the rectal temperature was 105° F. The bowels and bladder acted freely, the urine being of a golden-yellow when passed but turning dark on standing. Inspection of the body showed two grayish-white eschars in the right inguinal region; one eschar was the size of a quarter of a dollar, the other that of a dime. The eschars were so characteristic of those produced by carbolic acid that no doubt was entertained of poisoning of the baby by that substance.

The child died ten hours after the first convulsive seizure. The general convulsions ceased two hours before death supervened; both cyanosis and spasm of the face continued to the last minute. Death followed profound coma and heart failure.

The history of the poisoning is as follows: The nurse prepared a carbolic acid douche for the puerperal woman; accidentally she touched the pure carbolic acid with her thumb and index finger; the same moment she touched the baby's right groin with the carbolized digits, whereupon, five minuter later, the infant fell into convulsions.

The rapidity of absorption, the avenue of absorption, the apparently small amount of the poison, the long continuance of the symptoms—namely, ten hours—before the end came are points of interest and make the case worthy of record.

156 Clinton Street (Manhattan).

For Croup.—The following prescription, suggested by Joseph Holt, of New Orleans, has been tried many times with the happiest results:

℞	Chloral	gr. lxxv
	Potassii Bromidi	gr. xlv
	Ammonii Bromidi	gr. xxx
	Aquae Cinnamomi	f℥ij

Sig.—Teaspoonful, and repeat in twenty minutes if not relieved.

This is intended for a child about seven years old; for younger children the dose is slightly diminished. The chloral relieves the spasm of the larynx, and the bromides allay the nervousness; so that the patient is soon asleep and wakes the next morning as well as usual. The first dose generally gives relief. This prescription is of no benefit, of course, in true or membranous croup.—*Practitioner.*

EDITORIAL COMMENTS.

"A Christian Daily Newspaper"

Through the courtesy of the Topeka *Daily Capital*, PEDIATRICS is informed that the Capital Publishing Co. has decided to place its entire editorial control in the hands of the Rev. Chas. M. Sheldon, author of "In His Steps," that he may exemplify his idea of what a Christian daily newspaper ought to be.—Whatever the immediate outcome of this experiment may be (according to the daily press reports it was to continue for one week only) it merits attention as a sign of the times.—Dr. Sheldon's gospel is practical and simple. The enormous popularity of his writings, of which three million copies are said to have been sold, speaks for itself, and proves that the old Puritan spirit of Cromwell, Wesley and Whitefield is yet holding its own among the English-speaking peoples.—We should be interested to know, incidentally, what character of advertisements of patent medicines, nostrums and "catarrh cures" (with a string of clergymen's testimonials) the new editor deems fit to be published in a "Christian" newspaper. Indeed, we think the editor's pencil might perhaps find freer course among the advertisements of the daily paper than anywhere else.

New Autoscope for Larynx and Windpipe in Children

Dr. Alfred Kirstein, of Berlin, describes in the *Centralblatt f. Kinderheilkunde*, December, 1899, a modification of his original instrument (dating from 1895) for direct inspection of the child's larynx.—The explanatory figure given is not much more intelligible than such figures usually are; the inventor claims, however, that the new appliance is easily used and generally useful. A Casper electric illuminator is advised, though the ordinary light and head-mirror may, after some practice, be employed as in regular laryngoscopy. It is claimed that children do not usually object to it, that narcosis (preferably ether, never cocain) is rarely necessary, and that a good view of both larynx and windpipe may usually be gotten.—A rather startling admission is made that the instrument sometimes knocks out the patient's incisors, unless they are tightly in place before the examination commences! The author does not believe that this accident, occasionally occurring, will mar the general value of the instrument as an aid to diagnosis.

The Value of the Blood Count in Anemia

In a contemporary magazine we find an author commenting upon the fact that the blood count in one of the diseases of childhood is always high in spite of the apparent anemia of the patients. Now it is a well established fact that quite a severe grade of anemia may exist without the number of red blood cells per cubic mililmeter in the capillaries being lowered to any remarkable extent. In secondary anemias loss of hemoglobin is the first change to be noted, then changes in the size and shape of the corpuscles occur before the number of corpuscles is reduced. Lastly the so-called regenerative changes as evidenced by the presence of nucleated red cells are seen.—One accustomed to examination of the blood can learn far more about a patient's condition by examining a smear stained with Ehrlich's solution than by a count of red cells alone. In fact a count of the red cells is sometimes very misleading if not checked by a simultaneous examination of a smear. Even in very severe anemias the blood count may at times be above normal from cyanosis, capillary stasis, or sudden concentration from purging, serous effusion, and so on. Error cannot arise from this if a stained specimen be examined at the time the count is made. After one has become accustomed to the use of a particular bottle of Ehrlich's stain, if he always takes the same time to raise the specimen to 150° C. to fix, he soon becomes capable of gaining a very accurate idea of the degree of anemia present and may even venture to guess as to the percentage of hemoglobin. More can be learned from a specimen stained by this method than from the blood-counter and hemoglobinometer combined. T.

Mr. Purrington on Christian Science

The little volume on this subject recently put forth by the author mentioned deserves to be widely read. It is described as a "plea for children and other helpless sick," and the plea is eloquent and weighty.—Though most of the constituent chapters have already appeared in the *North American Review* and one or two of the newspapers of this city, the collection of the scattered parts into a single compact volume will be of great value.—As the author himself observes, the wisest way in which folly and deception can be brought to nought (far better than legislation) is to give them *publicity*, and the light in which Mrs. Eddy and her "cult" are here exposed will not, we prophesy, add many disciples to her train. The exposition is logical in its development, keen, witty, and thoroughly convincing. Physicians will be taking a philanthropic stand who make it their business to give this book a wide circulation. B.

The Gallinger Bill Again

The following letter, addressed to the medical profession of the United States by Dr. W. W. Keen, President of the American Medical Association, appeals particularly to those interested in the study of Pediatrics: "The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill for the 'Further Prevention of Cruelty to Animals in the District of Columbia,' which he has so strenuously and misguidedly advocated in the last two Congresses. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has also unfortunately and misguidedly reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection; and 2, to aid the passage of similar bills in all the State legislatures. It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government—the army, the navy, and the marine hospital service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise our own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease. The inestimable value of these scientific researches as to the prevention and care of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done. As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that *every physician* who shall read this appeal shall *immediately* communicate especially with the Senators from his State, shall also invoke the aid of the Representatives from his or other districts in his State, and by vigorous personal efforts shall aid in defeating the bill. It is especially requested also that all of the national, State, and county societies, at their next meeting, take action looking toward the same end.

If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all who can give any aid. The Committee on the District of Columbia consists of Senator James McMillan, Michigan, chairman; and Senators J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; C. P. Wetmore, Rhode Island; C. J. Faulkner, West Virginia; Thomas S. Martin, Virginia; Wm. M. Stewart, Nevada; and Richard Kenney, Delaware. Personal letters may be addressed to them or to other Senators. Petitions should be addressed to the Senate of the United States."

SOCIETY REPORTS

PHILADELPHIA PEDIATRIC SOCIETY.

Stated Meeting January 9, 1900.

The President, E. E. GRAHAM, M.D., in the Chair.

Dr. HAMILL presented a case of **Congenital Heart Disease Occurring in a Girl Aged Eleven Years.**—She was perfectly well until seven years of age. Since then she has lost flesh gradually but persistently. Her previous history included an attack of measles and three sharp attacks of follicular tonsillitis during the past three years. She suffered from disturbed digestion, dull, aching pain in her head, cardiac palpitation, and dyspnea on slight exertion. The last two symptoms are the most persistent and annoying. She has never had any hemorrhages. There is no clubbing of the fingers or toes and no history of cyanosis. The apex beat of the heart is the fifth intercostal space just within the mid-clavicular line; it is fairly forcible. Over the pulmonary area can be felt a late systolic thrill which is followed by a distinct diastolic shock. The area of cardiac dullness begins above at the second rib to the right, an inch to the right of the right edge of the sternum; and to the left, just outside the mid-clavicular line. Auscultation shows a slight short roughening of the first sound at the apex and in the second left interspace close to the sternum a rather low-pitched, prolonged late systolic murmur which is heard, though much less distinctly, in the first interspace and is followed by a loudly accentuated pulmonic sound. The heart's action is regular and rapid. The lesion giving rise to these signs is probably a congenital pulmonary stenosis accompanied by persistent ductus arteriosus. As against its being of post-natal origin is the extreme infrequency of lesions of the pulmonary orifice occurring after birth and the marked accentuation of the pulmonic sound.

DISCUSSION.

Dr. F. A. PACKARD.—I quite agree with Dr. Hamill that this is a case of pulmonary stenosis. I very much doubt if we have a right to call it congenital heart disease. While cyanosis and clubbing of the fingers are never essential to the diagnosis of congenital heart disease their abscence certainly points against it. There are such a large number of instances of pulmonary stenosis in children, apparently not congenital, that I think we ought to be on our guard in this class of cases against thinking that because the right side of the heart is affected it is therefore a case of intra-uterine infection. I have looked into the subject of pulmonary stenosis during the past year with considerable interest and am surprised to find how many cases are recorded. Dr. Hamill says the child has had repeated attacks of tonsillitis; it has happened to me to see a series of cases of endocarditis following tonsillitis and several of the cases I find in literature have affected the pulmonary valve. There was an example of this in Charrin's fatal case where the connection between endocarditis and tonsillitis was perfectly plain.

There is an interesting physical sign, the accentuation of the second sound, on which Duroziez laid particular stress in cases of pulmonary stenosis. This case presents that condition typically.

Dr. S. M. Hamill.—I was under the impression that Duroziez's observations with reference to accentuation of the second pulmonary sound referred exclusively to cases of concongenital heart disease. The presence of an accentuated pulmonary sound would lead me to suspect a congenital rather than a post-natal lesion. I cannot conceive of the method of production of an accentuated second sound in the presence of a true post-natal pulmpnary obstruction. I was much interested to hear Dr. Packard say that there seemed to be a special tendency toward the development of endocarditis of the right side of the heart in cases following upon an attack of follicular tonsillitis. I would like to ask him what explanation of this he has to offer.

Dr. F. A. Packard.—I do not mean to say that endocarditis of the right side of the heart preponderates in those cases following tonsillitis, but that there are a great many such cases.

Dr. J. P. CROZIER GRIFFITH read a paper on **Miliary Scarlet Fever, With Report of a Case.**

DISCUSSION.

Dr. ARTHUR VAN HARLINGEN.—I do not feel prepared to discuss the question of miliary scarlatina, but it has occurred to me to mention some differential points regarding miliaria and sudamina which may throw light on the diagnosis. Miliaria alba et rubra is not necessarily an inflammatory affection of the sweat glands, but one of the skin, especially around the duct orifices. It is probably a form of eczema due to heat, irritating clothing, acrid sweat, etc., and is situated in the area of a sweat duct orifice as that is the part most hyperemic or deranged in circulation. The evidences of the disease consist of small papules which may easily give rise to vesicles as they did in this case. Dr. Griffith said very little about sudamina and I would like very much to know if he considers that the two diseases occurred together in any of his cases. I can imagine that miliaria would occur in connection with scarlet fever as with numerous other eruptive diseases and yet not be necessarily connected with the disease itself. It may occur as the result of hot clothing or from circumstances which give rise to excessive perspiration.

I would suggest that in the further examination of similar affections they should be differentiated.

Dr. J. F. SCHAMBERG.—I have been much interested in the paper of Dr. Griffith because during the past few years I have been making certain observations along this very line, upon the character of the rash in scarlet fever in general and this miliary eruption in particular. I think Dr. Griffith has done well to emphasize the fact that many authors in text-books have labored under a delusion in calling these lesions sudamina. As Dr. Van Harlingen has said the eruption in sudamina consists of dew-drop like vesicles, non-inflammatory and differing markedly from the lesions seen in scarlet fever. It is also important not to term these vesicles miliaria because the latter term is used to designate a common eruption known as prickly heat.

I am inclined to believe that the greater the intensity of the rash, the more vesicles do we find; although we may find vesicles in cases in which there are slight rashes. In one or two hundred cases, however, the greatest number of vesicles seemed to occur in those cases in which there are severe eruptions. The greater the number of vesicles present, the greater the desquamation. Frequently one does not see the vesicles present because one does not look sufficiently closely; often on close scrutiny one will be able to see minute vesicles. Also the desquamation of scarlet fever occurs in a peculiar manner at least upon the body. In the majority of cases it begins as a number of pin-point powdery specks, corresponding to the desiccated summits of the miliary vesicles. Then there is a raising up of the surrounding cuticle producing minute jagged rings or collarettes, these rings meet with other rings, enlarging peripherally, and we have patches thus formed which are gyrate and geographic in outline. In this manner the entire superficial layer of the epidermis is raised off. Upon the hands the desquamation differs because the anatomical structure differs, the horny layer of the epidermis being much thicker than elsewhere.

Desquamation is much the same in those forms of toxic dermatitis which simulate scarlet fever.

Dr. J. M. Taylor.—I should like to ask Dr. Schamberg whether a statement which I have seen somewhere is correct, that the eruption of scarlet fever has a tendency to group itself about the hair follicles? In cases which I have seen it has seemed to me that that was oftentimes noticed. I should further like to know whether he considers this peculiarity of value in a differential diagnosis.

Dr. Edwin Rosenthal.—I would like to ask Dr. Griffith if he finds the miliaria more numerous on the face and hands than on the trunk? Or if he has found them limited to the chest and back? It is well known that we always look for and find the eruption of scarlet fever starting in the upper portion of the chest and most probably around the folds of the neck, whilst the vesicular rashes appear first on the face. The case of Dr. Griffith, may also explain certain cases, which we meet in some epidemics and which raise the question of chicken-pox. These cases seem closely allied to chicken-pox but may be miliary scarlet fever.

If Dr. Griffith could give us some points of differentiation I should be indebted. In cases of chicken-pox, the vesicles are often found in the child's throat.

Dr. J. F. SCHAMBERG: In answer to Dr. Taylor I should like to say that in a section recently excised which represented a small reddish punctum on the skin, I found that it corresponded to hair follicle surrounded by a round cell infiltration, but I shall be obliged to examine more sections before I am able to say that the punctated appearance is due entirely to an inflammatory condition around the hair follicles. It is common to note a goose-flesh appearance around the hair follicles, but this is not inflammatory.

BOOK REVIEWS.

THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL.—By Henry Ashby, M.D.Lond., F.R.C.P., and G. A. Wright, B.A., M.B.Oxon., F.R.C.S. Eng. Fourth edition. Edited for American students by William Perry Northrup, A.M., M.D. Longmans, Green & Co. 1900.

It is unnecessary to more than comment upon some new features of this well known standard work. The fact that it is written conjointly by a physician and surgeon has always made it particularly valuable for the general practitioner. In the fourth edition many of the chapters have been rearranged and some of them entirely rewritten. Sixty new pages of text, twenty-five new photographs, and fourteen plates have been added. A brief chapter is devoted to infantile scurvy, so that this subject is not included in the chapter on rickets, as in the third edition. Sunstroke is classed among the specific fevers but the various hypotheses as to its causation are not discussed. In fact the general tone of the work is eminently practical rather than theoretical. Malarial fever in infants has not received more than passing comment, as in the previous edition. The authors now fully endorse the use of antitoxin in the treatment of diphtheria. In regard to the use of this remedy they were rather conservative in the last edition, although at that time they thought it promised much. They do not, however, advise such large doses as some who have had considerable experience in the treatment of this disease now recommend. The section on separation of the epiphyses is illustrated by eight full-page X-ray photographs and is the best contribution we have seen to this subject. The appendix has been somewhat enlarged and rearranged. As enlarged and modified the work will continue to hold the high place it has won among students and practitioners.

ABSTRACTS

A CASE OF CONGENITAL HYPERTROPHY OF THE PYLORUS IN AN INFANT; RECOVERY; SUBSEQUENT DEATH FROM BRONCHO-PNEUMONIA.

Dr. F. E. BATTEN (*Lancet*, December 2, 1899) reports the following:

Summary.—The patient, the fifth child of healthy parents, was born at full time and was well till the age of five weeks, when without apparent cause he began to vomit. Till the age of nine weeks the child was suckled, but as the vomiting persisted he was after that time fed at first with diluted cow's milk and subsequently with Nestle's milk. The vomiting, however, continued and was associated with constipation and wasting. When first seen at 11 weeks old the child weighed only seven and a quarter pounds, the abdomen was flaccid, the tongue was clean, and the temperature was subnormal. On examination of the abdomen the stomach was found to be distended and showed marked peristaltic action and a firm hard mass could be felt in the region of the pylorus. The child was now fed with diluted cow's milk given through a nasal tube, the vomiting gradually became less, and well-digested stools were passed. On the first attempt to interrupt the nasal feeding vomiting recurred, but on a subsequent occasion the attempt was successful, and from that time the child steadily improved. When 11 months old the child had during the summer an acute attack of gastro-enteritis and broncho-pneumonia and died. At the necropsy an hypertrophied condition of the pylorus and stomach was found.

Diagnosis.—The diagnosis was made on the following points: (1) a healthy baby at birth; (2) vomiting; (3) constipation; (4) subnormal temperature in the rectum; (5) wasting; (6) marked dilatation and peristalsis of the stomach; (7) a tumor in the position of the pylorus; and (8) the absence of the usual signs of gastritis.

Pathology.—Various views have been held with regard to the pathology of the disease and it will here be necessary only to enumerate them, as they have been fully discussed in several able papers in which, also, a full bibliography of the subject will be found. These views are (1) that the hypertrophy is the result of spasm from some irritant in the stomach; (2) that the hypertrophy is a developmental overgrowth; (3) that the hypertrophy is the result of a congenital narrowing of the lumen of the pylorus followed by compensatory hypertrophy of the stomach; and (4) that it is a functional disorder of the nerves of the stomach and pylorus leading to an ill coördination and therefore an antagonistic action of their muscular arrangement.

After hardening in formalin the tissue was embedded in celloidin, cut, and stained by Van Gieson's method. On microscopical examination the mucous membrane and the muscular coat appeared to be perfectly normal so far as their structure was concerned, but it was obvious that the circular coat was considerably thicker than normal. The following measurements were made by the micrometer. The total diameter of the wall at a point two millimeters from the duodenal end of the pylorus was 4.2 millimeters, of which the circular coat measured 2.5 millimeters, the longitudinal 0.4 millimeter, the subcutaneous 0.5 millimeter, and the mucous 0.8 millimeter. If the measurements be compared with those of a normal child of the age of 12 months it will be seen that there is a considerable increase in the thickness of the circular coat.

Remarks.—The special interest of the case lies in the fact that recovery took place and that the subsequent post-mortem examination showed a condition which may be considered in accordance with the original diagnosis. That the symptoms began some five weeks after birth and that recovery took place would seem to negative the possibility of the condition being due either to a developmental overgrowth or to a congenital narrowing of the lumen of the pylorus. Further, the fact that no alteration was made in the character of the food would seem to negative the possibility of the condition being due to food acting as an irritant to the stomach, although this might have been the exciting cause in the first place. The fact that the child when fed with the nasal tube ceased to vomit, digested ordinary milk, and passed normal motions would seem to make the suggestion of Dr. John Thomson the most probable explanation of the condition—viz., "that it is a functional disorder of the nerves of the stomach and pylorus leading to an ill coördination and therefore an antagonistic action in their muscular arrangement." Peristalsis started by the action of deglutition would seem to give rise to such active peristaltic movement in the stomach that regurgitation of food takes place; when the active peristalsis started by deglutition is relieved by feeding with a nasal tube the stomach will tolerate the food that is placed within it.

Treatment.—The above case would seem to indicate that feeding by the nasal tube may be of some use for these patients. The child should be fed with from three to four ounces of diluted cow's milk given every two and a half or three hours. The nasal feeding should be continued for from 10 to 14 days, and an attempt should then be made to suspend the feeding by the tube and return to teat feeding; if this fails then the tube feeding should again be resorted to and another trial of teat feeding made after a week. This process should be continued till the stomach will retain its contents when swallowed in the normal way. The slight departure from the normal in the character of stools needs to be treated in the ordinary way. Constipation as a symptom does not need to be treated, as it soon passes away when the child retains its food. Warmth is most essential for the child as evidenced by the subnormal temperature so constantly present. Although this class of cases is uncommon it would seem not improbable that a certain proportion of them may recover under suitable treatment.

CYANOSIS—REPORT OF A CASE.

Frank C. Wilson, M.D., Louisville, Ky., says:

An exceedingly interesting case, a child two and a half years old, was recently sent to me from the country. Shortly after birth it had manifested evidences of a patent foramen ovale; it had also a decided cleft palate, and had been the subject of paroxysmal blueness ever since birth.

The child was slow in development, slow in teething: it did not have any teeth until it was fifteen months old, and then they came in the reverse order, *i. e.*, it cut the back teeth first and the incisor teeth last. It had finished teething when seen by me a few days ago, but was the subject of intense paroxysms of cyanosis, which occurred almost daily. Whenever the child became at all excited it would get blue; its entire fingers and finger nails would become cyanosed; face livid; toes blue; the whole surface of the body more or less livid and blue, remaining thus sometimes for several hours; then when the child went to sleep these symptoms would pass off.

The child is developed normally except that its head and upper extremities are only partially developed. It had never walked and the parents consulted me to know whether anything could be done looking toward relief.

I was satisfied, from my examination, taking the condition found in connection with the cleft palate that there might have been some arrest of development in the formation of the heart itself; possibly a defective development of the valve which ought to close the foramen ovale, and with that idea I could give them little hope for relief except what nature might bring about in development and improvement of the nutrition of the child.

The child is fairly well nourished, and the lower extremities, the parents say, are becoming better developed as the baby attains greater age. So the only ray of hope I could suggest was that nature might bring about relief in development.

This has been an exceedingly interesting case to me, and one which I shall follow closely to determine what the future results will be.

NASO-PHARYNGEAL ADENOIDS AS A CAUSATIVE FACTOR IN EAR DISEASE.

Allen T. Haight, M.D. (*Jour. Amer. Med. Ass.*, 1899, xxxiii, 1577) says: If the symptoms of these growths were more generally recognized by the family physician, and their removal accomplished, we would not find so many chronic suppurative and non-suppurative inflammations of the middle ear with the history dating back to an attack of diphtheria, scarlet fever, measles or other fevers.

At the first recognition of existing growths, the operation should be performed at once, by whatever method suits the case in hand. Curetting is the only true basis of treatment. There are some cases where a general anesthetic must be administered, especially in refractory children and nervous adults. In children it is advisable to anesthetize in a sitting posture. The author prefers bromid of ethyl to any other of the numerous anesthetics. It is easily administered, anesthesia is quickly produced, and is of sufficient duration for the expert operator to remove both tonsils and adenoid vegetations, if necessary. The child recovers from the anesthetic quickly enough to clear its throat and prevent strangulation from hemorrhage. As it is common to find children suffering from adenoid vegetations to be constitutionally affected, restorative tonics, nutritious food and plenty of outdoor fresh air are indicated after the operation.

THE NECESSITY OF POST-OPERATIVE TREATMENT OF CLUB-FOOT.

R. Tunstall Taylor, B.A., M.D. (*Maryland Medical Journal*, December 2, 1899) concludes a brief article on the above subject as follows:

1. Any surgeon who is conversant with the anatomy of the foot and the pathology of congenital talipes equino-varus can correct this deformity, but the work of the best surgeons will be worse than useless if correction is not maintained by a suitable ambulatory brace for months afterwards.
2. To prevent the recurrence of varus three points of pressure must be on the brace, viz., at the metatarso-phalangeal articulation of the great toe, at the inner side of the heel and at the calcaneo-cuboid articulation on the outer side of the foot.
3. There must be a stop-joint at the ankle to prevent a recurrence of the equinus.
4. To prevent supination of the foot the inner side of the brace and shoe must be lower than the outer.
5. Any mutilating operations to the bony framework of the foot, such as the removal of the astragalus, cannot be too much condemned as contrary to the best interests of the patient.

THE WIDAL REACTION IN TUBERCULOSIS.

Dr. S. H. Von Ruck, of Asheville, N.C. (*Jour. of Tuberculosis*, 1899, 179) with a view to determining the value of the Widal reaction in the diagnosis of tuberculosis, undertook the following investigations. In all, some sixty tests were made, and these were divided into four classes, as follows:

Class A—Trials made with blood from well marked cases of typhoid.

Class B—Trials made with the blood of individuals who had never had typhoid fever, and who were, as far as could be determined, free from tubercular disease.

Class C—Trials made with the blood of tubercular patients who had never had typhoid fever.

Class D—Trials made with the blood of patients suffering from tuberculosis and with a previous history of typhoid.

For each test a pure and virulent bouillon culture of the Eberth bacillus was used. These cultures were grown in the incubator at a temperature of 37.5° Centigrade; and in no instance was a culture employed which exceeded the age of eighteen hours. The dilutions were the same for all, and consisted of one part of blood to ten of the culture fluid containing the germs. Dilutions of one to twenty were also tried; but as no material gain resulted from their use, the author confines this report to observations made with the one to ten dilution only.

From the results of the experiments recorded, the following conclusions may be drawn:

1st. Inasmuch as with the blood of tubercular patients who had never had typhoid fever a modified reaction was obtained; and, as no reaction occurred with the blood of individuals free from tubercular affection and with no previous history of typhoid, it may not be unreasonable to presume that such change takes place in the blood of the former, not occurring in that of the latter, which in a manner exerts a certain degree of a protective influence against infection with the Eberth bacillus.

2d. A true Widal reaction is not to be obtained with the blood of tubercular patients; but what may be termed a modified reaction does occur quite uniformly, the difference being one of time and degree only.

3d. The modified reaction seen with the blood of persons suffering from tuberculosis in no way detracts from the value of the Widal reaction as applied in typhoid fever. However, the results shown should, in the use of this diagnostic means for typhoid, lead those to be cautious who are not familiar with what constitutes a true Widal reaction.

4th. It has been demonstrated that a modified reaction takes place with the blood of tubercular subjects, and the differences between this reaction and that obtained in typhoid fever have been pointed out. Again, it has been shown how very differently the blood of those affected with tuberculosis behaves (when brought in contact with the germ-containing fluid of a young Eberth culture) as compared with that of the healthy individual. Certainly each has its own characteristics which are not difficult to distinguish if one observes at all carefully. In the case of the young woman which we described, the diagnosis of probable tuberculosis, made by means of the Widal reaction, was subsequently confirmed by the physical signs of eruption of tubercle in the lung, and by finding of Koch's bacilli in the sputum. This case in itself affords, I think, evidence that the Widal reaction can and may be used for diagnostic purposes in tuberculosis. At least to obtain such a modified reaction when no history of previous typhoid existed, might lead to a suspicion of tuberculosis, if to nothing more.

But with a past history of typhoid the question would necessarily remain undetermined, for some influence due to that disease undoubtedly persists to a greater or less degree and for a longer or shorter period of time.

DIPHTHERIA.

Edwin Klebs, M.D. (*Jour. A.M.A.*, xxxiii, 1520) says: The danger of serum injections seems to be confined to the deleterious action of foreign serum, known as the globulicide qualities of such serum of non-human derivation. These globulicide substances can be destroyed by subjection of the serum to a temperature of 60 C., which does not destroy the antitoxic quality, as is shown by Spronck in Utrecht. Further, I would suggest that the needle should only be pushed into the tissue, to make sure that no blood vessel has been touched. Escape of blood warns us that such is the case and a new insertion must be made and the syringe attached. Only a small quantity of the serum should be injected at first, and the heart watched for a few minutes, when more can be injected. It is an error to recklessly inject 5 c.c. at once, fatal results having come to my knowledge not only in children, but also in adults. Soft parts, remote from the heart, such as the hip or loins, are the best places for injections.

In most cases the appearance and spreading of membranous exudation is certainly sufficient for a diagnosis, when associated with general symptoms. In other cases microscopic and bacteriologic examinations afford certain means for a correct diagnosis.

Cultures should be made nowhere except in properly equipped laboratories. For cultures, I may add, dog serum seems to be much preferable to the Loeffler serum, as shown by Dr. Robert F. Zeit, in my laboratory. For staining microscopic preparations our method gives characteristic features. The methods of Ernst, and later of Neisser, are by no means so sure and simple. Zeit uses a strong staining of the dried cover-glass preparation in the methylene-blue concentrated solution in 5 per cent. borax, and decolorizes with 1 per cent. Bismarck-brown for three minutes. All true diphtheria bacilli then show the chromatic bodies very darkly stained, whereas the other substance of the bacilli is stained yellow. No other bacillus gives this reaction, which in many cases assures the diagnosis by microscopic examination alone.

Serum injections should be made in every case in which a diagnosis of diphtheria can be made even with probability, but should not be registered as diphtheria until the diagnosis is made sure by microscopic or bacteriologic examinations.

Other general, not specific, treatment should be instituted, if a given case suggests such a necessity. Mostly to be recommended are mild hydropathic measures, as practiced in other fever cases. As in other infectious diseases of a highly toxic character, the formation of polynuclear leucocytes in the bone marrow is impeded. Repeated blood examinations with dried and stained preparations should be made, as these will give better indications for treatment than the fever alone. As cold water applications promote peripheral circulation, they afford the best means of promoting leucocytosis.

Local treatment has been very much neglected since the introduction of serotherapy. In the use of local antiseptics such chemicals as are apt to endanger the life and action of tissue-cells are to be absolutely avoided. Mild, not irritating, antiseptics, such as chinosol—1 to 1000—or antinosin in 2 per cent. solution, applied to the entire surface of the tonsils, palatum molle, pharynx, etc., with cotton balls, have given good results. The nasal passages should be washed with these same solutions by means of a suitable syringe.

MENINGEAL LIPOMA.

Louis Frank, M.D., Louisville, Ky., says: I first saw the patient from whom this specimen was removed about the middle of October, 1899. The child was about six months old, one of two in the family, born of healthy parents.

At the time of birth there was noticed at the sacro-lumbar juncture the tumor which I exhibit. It was described as being at that time a sac with a pedicle, only partially covered with skin, the entire tumor being not quite the size of the head of a new-born infant, not entirely covered by integument, apparently translucent, glistening in appearance, fluctuating.

The physician who delivered the woman advised removal of the tumor at once, stating that he had seen a number of cases (100 or 200) of a similar nature. The mother would not consent to the operation, and shortly afterward moved from the place where the child was born to Frankfort, Ky., where I saw it.

I examined the child carefully and found this tumor, and could find an opening in the spine at the point where the tumor arose. It arose by a fleshy pedicle about 1 inch in diameter. When first seen by me that portion of the growth which is not covered with skin presented a yellow, opaque appearance, and the tumor had a very fetid odor. The child, however, showed no symptoms of any kind; the fontanelle was fairly well closed; there was no evidence of hydrocephalus; the child had never had any spasms or other symptoms expected with such a condition; there was nothing except the presence of the tumor, and notwithstanding the condition of the growth—septic—the child had a regular, even pulse. As already indicated, there was nothing but the presence of the tumor itself, which was a nasty, stinking mass, presenting the appearance I have described.

I thought, as did the other physicians who had seen the case, that it was spina bifida; it sprang directly from the median line at the junction of the sacral and lumbar vertebrae. The consensus of opinion was that the child would die shortly, and I was asked to remove the tumor.

The patient was sent to an infirmary in Frankfort and the tumor was taken away by cutting in about 1 inch from its base. In removing the tumor it was the intention to make two semi-circular flaps and I found that I had gone within ¾′ inch of the point of origin of the tumor itself. In removing it I did not go into the spinal canal, and upon opening the tumor after removal I found there was no cavity or anything which would lead one to believe that it was a spina bifida cyst or meningocele.

I believe that the tumor is a lipoma, such as we sometimes find with bifida spines, and that this child probably had a true meningocele which did not extend the entire depth of the tumor. Whether this is true or not I do not know.

The external wound was closed and the child apparently did well. I was prepared had I opened the spinal canal to close it with sutures. The main body of the tumor had undergone gangrenous degeneration. As soon as an incision was made into the tumor a lot of mud-colored fluid escaped.

What the future of the case will be I do not know. In a tumor of this kind the diagnosis would be very difficult as in an examination nothing but a spina bifida would suggest itself.

DISCUSSION.

Dr. A. M. Vance: I had a case some time ago, a boy 11 years old, from the mountains, who had an old case of infantile paralysis with several sores upon his body which had commenced to slough. I curetted these thoroughly and sent the boy back to the mountains. He returned subsequently with the condition practically unimproved.

I concluded upon investigating this case thoroughly that the paralysis was probably due to a condition similar to that in the case reported by Dr. Frank, except that the tumor in my case was covered by skin. There was a tumor upon the boy's back that appeared to be an ordinary lipoma, as far as we could make out. I am sure it was a case like the one reported, a tumor made up principally of lipomatous tissue with a meningocele in it, and that the paralysis of the lower extremity was due to the presence of this meningocele interfering with the nerves on that side. I did not undertake to remove the tumor. I amputated the boy's foot because of gangrene when he returned the second time, and the amputation wound healed primarily. I have never removed a meningocele by radical operation, and think statistics show that it is not a very satisfactory operation.

Dr. Turner Anderson: I do not see how it would have been possible judging from the appearance of this tumor to have made an accurate diagnosis. It looks more like a spina bifida than anything else. Dr. Frank deserves much credit for attacking it in an off-hand way, and was lucky to find that it did not communicate with the cord. He was probably induced to operate on account of the general symptoms present, the development of the fontanelles, the absence of paralysis of the extremities, etc.

I have a case under observation which presents a condition somewhat similar, but in this case there is absence of development of the cranial sutures, and I am sure it is a case of true spina bifida. I congratulate the doctor upon his success in the treatment of his case.

Dr. A. M. Cartledge: I take it that this tumor is practically the only one that causes any difficulty in making the diagnosis of spina bifida. There is a remarkable thing about lipoma, which occurs in this connection in its simulation of spina bifida and also in its histological structure. The researches of Senn and others show that this tumor, while coming under the head of fatty tumor, is characterized by a remarkable development of connective tissue with numerous trabeculæ. It is a congenital arrangement and hence is sometimes associated with spina bifida, and has a true meningocele presenting in the base of the tumor. The best article I have seen on the subject I think is in Dennis's recent "System of Surgery," where this very tumor is described; it is about the only tumor that has any similarity to a meningocele or true spina bifida. The point Dr. Anderson makes about the fontanelles and the question of paralysis from interference of the nerves by pressure, tend to make the diagnosis. Such tumors frequently slough and become necrotic.

Dr. Louis Frank: I have searched hurriedly what little literature I have at my command on this subject and it would seem from the result thus far that I have been very fortunate. Had I known then what I know now I might not have operated upon this case. The clearest and best description that I have been able to find is given by Sutton in his work on tumors. Senn, Dennis, and others have copied largely from the original description given by Sutton. and their conclusions seem to be the same as those stated by Sutton. Sutton also reports a case like this occurring in a child 8 months of age. Other cases have been reported where the base of the tumor was composed of lipomatous tissue, a sac extending into the tumor proper which contains nerves—the so-called meningo-myelocele, but not a true meningocele.*

In looking up the subject of lipoma the only description I found of a lipoma occurring in this connection was the lipoma associated with meningocele. These tumors are described clearly; they occur in the median line either about the lumbar vertebrae or the lumbo-sacral juncture; the description tallies almost perfectly with the case reported; they are all said to be complicated with spina bifida with a distribution of nerves in the sac itself. I think this case was one of that variety. It is a true spina bifida, but associated with it there is a congenital lipoma, springing from what structures I cannot say. I was perhaps fortunate in not going any deeper with my dissection. I removed the entire tumor, cutting through it about 1 inch from its base.

The child was carefully examined and presented no evidence of any other defect. There was no club-foot, no paralysis, no cleft-palate, no hernia—nothing that we should expect to find in such a case. Upon manipulation of the tumor there was no tendency toward convulsions or coma as we often find in such cases. The only thing which would strike one as occurring with such a condition was the failure of the fontanelles to close firmly. They were still somewhat soft, much more so than we should expect to find in a child of this age.

A striking thing about the tumor is that the skin proper extends over only a portion of it. Why the tumor should have undergone sloughing or become gangrenous I do not know. The blood supply was quite extensive. There was considerable hemorrhage during the operation; five or six small vessels spurted quite sharply. The tissue at the base of the tumor was fibrous, dense, and hard; it could hardly be caught up with a hemostat in controlling the hemorrhage. It was necessary to pass a ligature down and transfix the two main vessels that supplied the tumor.

In operations upon these cases statistics show recoveries in from 15 to 26 per cent., and I believe one German authority reports 40 per cent. of recoveries in his own cases. I do not believe there have been a great many cases of this kind operated upon.

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* *Later.*—Further examination seems to show this tumor to be a true meningeal lipoma.

A DISCUSSION ON THE TREATMENT OF DIPHTHERIA.

E. G. Wood, M. D. (*The Southern Practitioner*, 1900, xxii, 7) in an article with the above title calls attention to the importance of gavage in the treatment of diphtheria. He concludes as follows:

In some cases, owing to the difficulty and pain in swallowing, it may be necessary to resort to other methods of feeding, and in young children it will usually be best to feed through a small tube passed into the stomach through the nose and thence down the œsophagus. This method gives better results in children under three or four years of age than does rectal alimentation, which may be resorted to in older subjects.

1. Antitoxin, properly administered, has a specific effect on diphtheria, and I should as soon think of treating malaria without quinine as diphtheria without antitoxin.
2. Serum therapy materially shortens the duration of the disease and reduces the mortality at least one-half, not only in pharyngeal and nasal cases, but likewise in laryngeal diphtheria.
3. The earlier it is administered the more pronounced are its results in shortening the attack, in reducing the death rate, and in lessening the liability to the serious effects of the toxins, viz., heart failure and paralytic sequelæ.
4. It is doubtful if it reduces the percentage of cases of paralysis unless it be given in the first two days of the attack.
5. One large initial dose is productive of better results than repeated smaller ones.
6. In a clinical diagnosis of diphtheria, we should make it a rule to administer the remedy at once and not to wait for a bacteriological report to confirm or correct our diagnosis. So much better are the results of early injection that we cannot afford to wait for 12 to 24 hours for a reply from the laboratory.
7. It is practically harmless.
8. It is of no value in pseudo-diphtheria or streptococcus sore throat.
9. Antitoxin administered to healthy individuals possesses the power of conferring upon them immunity against diphtherial infection, but this protection is limited in most cases to about one month.

TREATMENT OF WHOOPING COUGH WITH ANTITUSSIN.

Heim (*Berliner Klin. Wochenschr*, Dec. 11, 1899) speaks of the disappointment which has attended the administration of a number of remedies which were put forth as certainly serviceable in whooping cough. In this test ot alleged failures he includes bromoform, and antipyrin, and the more recently introduced thymic extract (pertussin)- The majority of practitioners who were using these remedies a short time ago have gone back to quinine and belladonna.

Recently another new remedy has been introduced, a preparation containing fluorine and bearing the trade name antitussin. Heim has used this drug in sixteen cases without synergists. The benefit obtained was in striking contrast to the results which followed the use of some of the other new remedies, for it appeared to be constant and marked. The mode of application of antitussin is somewhat novel as the drug is exhibited in ointment form. This must be so, because fluorine is too irritating to be swallowed. In this ointment the fluorine, chemically combined with the radicle phenyl (difluor-diphenyl) is mixed with vaseline and lanoline, the mixture being what is known as antitussin. In order to apply antitussin the throat, chest, and interscapular region are well washed with warm soapsuds and then rubbed dry. A lump of the ointment as large as an English walnut is now rubbed in vigorously with the palm of the hand, friction being kept up until no more ointment is visible upon the surface.

Of the sixteen cases nine were in the convulsive stage, and were all under the age of one and a half years, in relatively poor health, and with unfavorable surroundings. Some of these cases are shown by the symptoms—nose-bleed, subconjunctival hemorrhage, capillary bronchitis—to have been of more than average severity, while all were severe. The improvement was always prompt, and, at times, startling. Cyanosis and threatened asphyxia were arrested so promptly that there can be no doubt that the drug has a marked anticonvulsive action. It also loosens the secretions. The duration of a case of pertussis appears to be greatly shortened, and it is possible that when begun in time its employment may altogether prevent the development of the convulsive stage, which is certain to be abbreviated in any case. Antitussin may also prove to be of service in conditions other than pertussis, such as simple acute laryngitis and bronchitis.

Tho author does not allude to any supposed bactericidal action of antitussin. Inhalations of fluorine gas have recently been advocated in phthisis.—*Medical Review of Reviews.*

PEDIATRICS

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ORIGINAL ARTICLES

INJURIES OF THE NERVES DUE TO FRACTURE.*

By CHARLES GREEN CUMSTON, M.D.,
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We have recently had under our care a most interesting and instructive case of nerve injury due to a fracture, and it is quite worth our time to consider the question somewhat carefully.

The patient was a young girl sixteen years of age, who sustained a fracture of the left humerus, just above the condyles, in August, 1899. The fracture was reduced soon after the injury and the limb was put up in a splint by a physician. But after the fracture had united and the splint was removed, the patient noticed that the left hand was practically powerless, and as this condition did not improve, she applied for treatment.

When first seen on November 7, 1899, I made the following notes: A paralysis of the median nerve was present. No change in the electrical irritability nor trophic condition were remarked and no atrophy of the muscles supplied by the median nerve could be detected. As to the movements we noted as follows: pronation of the antibrachial is limited but functional disturbances in the thumb are very marked. The terminal phalanx of the thumb cannot be made to flex at all, and the entire thumb can only be made to bend if abduction be made at the same time.

What disturbed the patient most was the fact that she had lost completely the power of bringing the thumb into opposition. Abduction was also impossible. The terminal phalanges of the fingers can not be flexed. All these conditions, as you see, pointed to a lesion of the median nerve.

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* A clinical lecture delivered January 12, 1900.

As to the disturbances in the sensibility, they are most marked in the terminal phalanges of the index, second and third fingers while the radial aspect of the fourth finger is not affected to quite the same degree. The sensibility of the middle phalanges is somewhat dulled. The middle finger shows the most pronounced tactile dullness of all. The lateral aspects of the fingers show by examination that the trouble in the sense of touch is more marked on their radial side.

The elbow joint appears rather thickened while the cubital gland is somewhat enlarged and painful to pressure. A hard cord can be felt over the cubitus which, when pressed upon, is extremely painful; the pain is most intense above the joint and decreases above and below.

All this led me to make a diagnosis of a lesion of the median nerve, in all probability due to the callus or to cicatricial tissue. In order to rectify the condition, which I can assure you was most distressing to the patient, I advised her to have an operation done for its relief.

On November 11, we made an incision about ten centimetres long and exposed the median nerve by dissection and then it was followed up above. The nerve was found to become gradually broader and thinner for a distance of about two centimetres and ran over a sharp projection of bone. Above and below this, the nerve regained its normal dimensions.

Next, the nerve was carefully lifted up and freed from the connective tissue which partly imbedded it, and then the bony projection was chiselled away so that when the nerve was placed back it lay perfectly flat and no bone pressed upon it. This bony projection was the callus because it was very vascular and of new formation.

The wound was closed with one buried catgut suture and interrupted wire sutures for the integuments. The latter were removed in six days and the patient was discharged at the end of a fortnight.

No improvement in the functions of the hand was evident until five weeks later, when the sense of touch began to return. At the present time, eleven weeks after the operation, we find that the motor functions are nearly perfect, although abduction of the thumb is still somewhat impaired.

This case, as well as other similar ones that have been recorded from time to time, amply demonstrate that, when surgically treated, these nerve injuries due to fracture, have a most favorable prognosis, and it is quite safe to assume that in cases of non-complicated fractures a good result may be expected, provided *that an operation is done for their relief as soon as the diagnosis has been made.*

Cases similar to the one here reported must be more frequently met with than is generally supposed, although few cases have been recorded. It is quite true that in simple fractures, injuries to the blood vessels and nerves are not of ordinary occurence, and the present case very well illustrates what may take place.

These injuries may occur simultaneously with the lesion of the bone, in which case we may term them *primary*, or on the other hand they arise during the process of repair, in which case they are *secondary*. The most frequent of all lesions to the nerves is certainly contusion at the time the fracture takes place.

Contusion of a nerve may be produced by a direct force, the nerve being pressed directly against the bone; or by an indirect pressure from the dislocated ends of the fractured bone. The severity of the lesion naturally varies with the amount of force in play at the time of the traumatism, so that a nerve trunk may be only injured so slightly that no pathologic changes occurs, or it may be completely crushed. Consequently the functional disturbances will vary greatly in one case from another.

If the traumatisme of the nerve is slight a limited amount of paralysis will result which disappears in a few days, while it may last for months, or continue until operative measures are resorted to when the traumatic lesions are of severe grade. The large majority of these cases necessitate an operation, and it is quite probable that in many instances a nerve trunk sustains a traumatism at the time of the fracture, but not being of any great account the functional disturbances are not noticed by the physician or patient, because by the time the splints are removed, after consolidation has taken place, the nerve will have recovered its functions and consequently no symptoms of its injury remain.

Secondary injury is not infrequent, and after the callus has formed it compresses the nerve trunk, or on the other hand the pressure may result from an abundant proliferation of connective tissue at the site of the fracture. The callus may simply press upon the nerve, as in the case here reported, or it may even surround it completely, thus comprising it in its mass. A fairly good proportion of cases belong to this class, the nerve most frequently involved being the radial, and this frequency may be explained from the spiral course that the nerve follows around the humerus.

Pressure from a misplaced fragment may also happen; it may be primary, in which case the nerve is stretched over the projecting edge of the bone. When it occurs as a secondary complication it is usually dūe to the fact that the fragment continues to protrude, on account of the process of repair. When this takes place the lesion manifests itself by neuralgic or motor and sensory disturbances in the limb. Trophic changes have also been observed in some instances.

Other nerve lesions are total or incomplete laceration by direct force or by a dislocated fragment of the fracture; the radial nerve appears to be the one most frequently injured in this manner. Cases have occurred where a nerve trunk has been caught between the ends of a fracture, the symptoms being immediate paralysis of the parts supplied by the nerve, and pain. As a very rare lesion, I may mention traumatism of a nerve by splinters of bone.

As one might suppose, the nerves of the limbs are the most frequently injured in fracture, but instances of lesions of those of the face have been recorded. The most frequent has been the imframaxillary nerve, while the infraorbital nerve has also been involved in some few cases.

But as has already been said, the nerves of the limbs are the ones most apt to be injured in fractures, and the radial is the one which has been most frequently observed. Occasionally the brachial plexus, the axillary and median nerves are the site of the injury, and in one case two or more nerve trunks were involved at the same time. The nerves of the lower limb are infrequently injured, the most usual site being the peroneal nerve in cases of fracture of the head of the fibula, for the simple reason that this nerve is closely related to the bone. Lesions of the ischiatic, crural and tibial nerves have been reported while several cases have been published where both tibial and peroneal nerves were injured.

Complete laceration of the nerve trunk may sometimes occur, and as an illustration of this lesion I will cite the following instances: In Woelfler's case there was a fracture of the humerus with laceration of the radial nerve. The latter was sutured, and the case resulted favorably. Claus reports a case of double oblique fracture of the lower end of the humerus with a laceration of the radial nerve. When the plaster splint was removed three weeks after the injury, a paralysis of the left hand existed. The ends of the injured nerve had united with the corresponding ends of the fracture. The parts were freshened and the nerve was sutured, and two months afterwards the motor functions of the limb had returned. Finotti sutured the radial nerve nine weeks after the laceration had occurred, with a complete cure eighteen months after the operation, while Sich and Sänger report a case of compound fracture of the humerus where only a part of the triceps muscle, brachial vein and the ulnar and median nerves were preserved. After the fracture had healed a paralysis of the radial nerve was noted. Two months after the accident the two ends of the nerve were found so far apart that end to end suture could not be accomplished, so the peripheral end of the radial nerve was united to the median nerve with the result that a year and a half later an almost complete motor function had returned.

Compression of the nerve trunk from misplaced fragments is apparently not frequent, although Davis believes that it must be more common than is generally supposed, especially those cases where the nerve becomes imbedded in the callus. Bruns, on the other hand, asserts that the most frequent cause of secondary nerve lesions in fractures is compression of the trunk by fibrous adhesions and exuberant callus formation. The following cases will serve as an illustration of this condition:

Woelfler's case was paralysis of the radial nerve. This was cut down upon and freed from the cicatricial tissue; a cure resulted. In Kennedy's case there was absolute inability to use the arm eight weeks after a fracture of the elbow. The The radial, ulnar and median nerves were all packed together in cicatricial tissue; they were dissected out and freed, but it was necessary to section the median and radial nerves which were afterwards united by an end-to-end suture. The result in this case was doubtful.

Koelliker reports two cases. In the first there was paralysis of the radial nerve which had become adherent to the surrounding tissues; the nerve was thickened and hyperemic. Several years after the accident the nerve was dissected out and freed; there was improvement, but the motor functions were not completely restored. The second case was an instance of fracture of the elbow joint, followed by a paralysis of the median nerve. The nerve was found adherent to the surrounding tissues and was broader than normal and flattened, hyperemic and had lost its normal shining aspect. The nerve was freed from the adhesions and stretched, but as the patient was lost sight of, the ultimate result of the operation is unknown.

From the cases here reported it will be seen how much may be expected from an *early* operation, and also how complicated may be the condition present, but the results are so encouraging that surgical measures should always be advised for the cure of this unfortunate complication of fractures.

871 Beacon Street.

The Frequency of Rickets in Infants in Boston.—John Lovett Morse finds marked signs of rickets in 80 per cent. of 400 infants under two years of age, coming under observation at the Infant's Hospital. About 40 per cent. of the cases are found in Polish and Russian Jews. The earliest, and a constant symptom, is a rosary. The symptom next in frequency is delayed dentition. The causes are said to be bad hygienic surroundings, race and diet being subsidiary factors in the causation.—*Bos. Med. and Surg. Jour.*

OPHTHALMIA NEONATORUM.

By J. A. Day, M.D.,
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THE subject of this paper—ophthalmia in the newly-born—like many other important topics, has, apparently, already been worn threadbare by being repeatedly discussed in medical societies, but it is always appropriate to rehearse it, nevertheless; it is of paramount interest to us as physicians, and therefore deserves to receive our most careful and serious consideration. Frequent reiteration, therefore, even if no new ideas are advanced, will serve to more thoroughly impress upon our minds the extreme importance of great care in dealing with this class of cases, particularly as regards their prophylaxis. Especially should the general practitioner and accoucheur be convinced of the gravity of such cases, and understand perfectly the preventive as well as subsequent treatment, as it is in their domain that the majority of cases originate. They should observe the strictest caution in the management of all of their obstetrical cases so as to prevent infection of the conjunctiva of the infant during or after birth.

Indeed, it would be difficult to overestimate the seriousness of this disease, as without doubt it is one of the most fruitful sources of unwarranted and unjustifiable sorrow and suffering with which the human family has to contend. The great proportion of blind eyes in adults, as a result of this disease is appalling—the best statistics show that from 26 to 30 per cent. of cases were caused from purulent ophthalmia occurring shortly after birth. Taking it, then, from a humanitarian standpoint, to say nothing of the evident loss and unnecessary cost to our commonwealth, and considering the fact that this is one of the few diseases which it is possible for the physician to absolutely prevent, and in time almost eradicate, where is there a disease in our entire medical catalogue that should elicit more profound study from the medical profession than this one ? However, with all these startling facts staring them in the face, it is shocking to notice how very careless, even in this age of boasted scientific midwifery, some physicians are regarding the health of the eyes of the new-born infant. There is no excuse to be offered for those who overlook this particular part of their duty, and they are just as culpable for neglecting to do what they know should be done, as they would be for being ignorant of what is required of them as guardians at the parturient bedside.

Too often the physician considers his responsibility ended when the labor is terminated and he has performed the few customary duties relating to the comfort of the mother, and forgets that her child should come in for an equal share of his attention.

Usually, as soon as the new baby makes its entrance into the world, it is handed over to whoever happens to be acting in the capacity of nurse (unfortunately, quite often a very incompetent person) and frequently, unless the doctor's attention is called to it, he never as much as gives it a passing thought thereafter. The helpless little innocent is left to the mercy of such a nurse, and is obliged to run the gauntlet of all sorts of "grannie notions," and it is almost a miracle when it escapes uninjured. It gets its first bath according to the method customary with our grandmothers; beginning with the lower extremities and finished up with the head, the eyes receiving attention last by being wiped out with the same filthy cloth that was used throughout the whole performance. It is plain to see how such a process, alone, could easily contaminate the conjunctiva with whatever infectious material may have come in contact with the body of the child during its passage through the parturient canal, and common sense, if nothing else, should rebel against such an uncleanly method.

The proper course for the obstetrician to pursue, in order to prevent this disease, would be as follows: As soon as the babe is born, if circumstances will permit it, the parts adjacent to and the eyes themselves should be thoroughly cleansed with warm water; this done the child should be laid aside during the few moments which are required to attend to the mother's after treatment, in a suitable place where it can rest undisturbed. It is sometimes impossible for the physician to give his attention to the eyes of the babe immediately after the exit of the head, as is advised by some eminent authorities, owing to a greater demand for his services on the part of the mother at that very moment. This being the case, of course, it would be necessary to omit the additional precaution of immediate attention to the eyes upon expulsion of the head. As soon as practical, though, the eyes should be attended to, by cleansing them thoroughly, and then instilling a few drops of some mild antiseptic, such as a saturated solution of boracic acid. The physician should then stand guard, as it were, and superintend the washing and dressing, being particular to see that the eyes are not molested, unless possibly the nurse is reliable and trustworthy, having had a course of training sufficient to cause her to realize the importance of careful antisepsis, and the dangers attending infection of the infant's eyes.

If there is the least suspicion of gonorrhea in the parents, or if there is present at the time of delivery any profuse discharge from the vagina of the mother, it would be well to drop a few drops of a 2 per cent. solution of nitrate of silver into the eyes, according to Credé's method. Prof. Credé advised this plan in all cases, but such a radical procedure seems cruel and uncalled for in private practice, at least where there is no special indication for such extreme precautions. Such a plan would probably be appropriate and admissible among the poorer classes in large cities, or in maternity hospitals, where the liability to disease of this nature predominates, but to make it a universal rule would (with all respect to this eminent teacher) be unnecessary, to say the least, in private practice among the better classes; moreover, it would cause inflammation in many eyes which would otherwise have been healthy. The physician must not ignore the fact, however, that it is always possible for parents, no matter how high their station in life may be, to be victims of venereal disease, and he must be on the alert to detect it, and then adopt proper measures to prevent it being communicated in child-bearing. These cases that occur among the well-to-do are the ones that usually catch the physician off his guard, as it is the unexpected that so frequently happens.

It is hardly necessary to irrigate the vagina in all cases just prior to delivery, and, if we accept the theory advanced by Döderlein, that there is a bacillus indigenous to the normal vaginal secretion which produces an acid environment which is germicidal in its action, and capable of destroying staphylococci, irrigations of the normal vagina would be contraindicated.

In all cases where there is evidence of recent gonorrheal infection or severe leucorrhoea in the mother, irrigation is invariably demanded and should be strictly enforced. This greatly lessens the risk of the eyes becoming infected during the passage through the vaginal canal, and obviates to some extent the possibility of the virus being introduced by the examiner's fingers. Free irrigation for several days prior to, and occasionally during delivery, with corrosive chloride, 1 to 5000, carbolic acid or creolin 2 to 5 per cent., or some such antiseptic, will in the majority of cases suffice to eliminate, to a great extent, the possibility of infection of conjunctiva. Care must be taken not to use very strong solutions for irrigating during the labor, as the severest possible inflammation of the eyes, producing total blindness, has resulted from the injection of strong sublimate solution into the vagina at this time (Hirst).

Nature, herself, incidentally provides a most beneficent means of protecting the eyes under bad conditions, by flushing the vagina with the amniotic fluid, thus throwing out a protective and antiseptic which comes in contact with the walls of vagina just at a most important time. This probably accounts for so many eyes escaping injury under unhealthy conditions where otherwise infection would have been inevitable.

When infection does occur, it is probably in the following manner: the face in its descent through the canal, is so strongly embraced by the diseased mucous membrane of the vagina, during the violent expulsive effort attending labor, that the infectious material is forcibly squeezed into the eyes. More especially is this liable to occur during extension of the head when sweeping over the perineum.

Quite frequently, though, the infectious material is introduced some hours after birth, having escaped it during its passage through the canal. This may come about from using infected cloths for bathing purposes, or from the unclean hands of the nurse.

Every case of inflamed eyes in the new-born, even where there is no evidence of impurity on the part of the parents, and notwithstanding the fact that strict preventive measures have been observed, should engage the attending physician's careful attention and should be diligently treated. He should not ignore it, no matter how simple it may appear, or be misled by such statements from the nurses as, "it has taken cold in its eyes," or "it has been exposed to too strong a light," but he must begin at once with energetic treatment to relieve it.

What is most unfortunate about these cases is that they are frequently neglected until the disease has advanced so far as to permanently injure the vision before they receive proper treatment. Frequently they are overlooked by the family physician, and not until they have gained such headway as to cause the friends to be alarmed, does he give the inflamed eyes much attention; probably, even then, he will delay yet a few days while using some inert collyrium, not being sufficiently impressed with the seriousness of the case and the dangers of delaying. When he does come to his senses and decides to make a good examination, he is astonished to find that the damage to the eyes is already so great as to be almost past doing anything for. It is plain to be seen, therefore, why the family doctor, above all others, should have a thorough knowledge of this disease; he must have a clear perception of what to do, and realize the urgent demand for doing it at once, as he is always the first to be consulted regarding it. The eye specialist, to be sure, would be the proper person to treat these cases, and probably it would always be proper to refer them to him, but the difficulty is, he is not taking charge of confinement cases, and consequently is of no service at the very time when he would be most needed. For this reason every physician that practices midwifery should understand the treatment of this disease. In fact the treatment of ophthalmia neonatorum should be included as an important part of the regular course of obstetrics in our medical colleges, and the lecturer would do well to devote several hours each term to its pathology and treatment, in order to particularly emphasize its importance.

Such a plan of teaching, of course, would not make the obstetrician capable of treating this disease as well as one who has devoted his attention to eye diseases alone, but it would cause him to realize the necessity of the prophylactic treatment, and this he can carry out as well, if not better, than the ophthalmic surgeon himself. It would also enable him to make a diagnosis early in the case, when he could refer the case to the specialist before the disease has progressed so far as to be past relieving. It is difficult enough to control the intense inflammatory process when taken in its very incipiency, to say nothing of its stubbornness after it has continued for several days. As a rule, when these cases do fall into the hands of the specialist, irreparable damage has already occurred to the cornea, and all he can do is to relieve the suffering and give the patient only imperfect vision. To say the least, he finds the eyes in a most deplorable condition; the lids intensely swollen and overlapping, and exuding great quantities of thick creamy pus from their intensely inflamed conjunctiva. On separating the lids, the pus gushes out with a spurt, in great quantities, and the cornea is found, as it were, imbedded in a pool of pus, owing to the swollen conjunctiva mounting up around its base (chemosis). If the case has continued for several days the cornea will present a scalded appearance, and may be undergoing destructive ulceration, caused from its nourishment being cut off from strangulation of the episcleral and ocular conjunctival vessels, due to pressure from spasm of lids and pent up discharges.

But few contend, now, that all cases of ophthalmia neonatorum are caused by the gonococcus of Neisser, as a careful microscopical examination of the discharges in a large number of cases has failed to reveal it. Any pathological discharge from the vagina has the power of setting up a purulent conjunctivitis, and the conjunctiva of the infant is said to be especially susceptible to such infection.

The treatment of this disease depends on the stage at which it is first seen. The physician must consult his own judgment regarding what is the best plan to pursue in each individual case, and not attempt to treat them all by one stereotyped plan. There are a few essential points regarding the treatment, which will bear repeating. The most important point, after all, in the successful treatment of ophthalmia neonatorum is the early detection of the beginning inflammation. The attending physician should, himself, inspect the eyes daily, and as soon as he notices the slightest manifestation of inflammation, should begin active treatment to abort it. If the case is seen early, mild antiseptic and astringent treatment will usually suffice to bring about a cure, but should the disease persist, and the purulent secretion become very profuse, stronger treatment will be required. Usually after the discharge has become free, a solution of nitrate of silver, 3 to 10 grains to the ounce, applied to the lids once daily, with frequent irrigation with saturated solution of boracic acid, or mild solutions of corrosive chloride or permanganate of potassium, will bring about improvement. The cardinal principle in the treatment is to keep the eyes free from the irritating discharges which so frequently lead to perforation of the cornea, by frequently repeated irrigations and astringent applications. It is this decomposed, pent-up pus, that macerates the cornea and causes it to be prone to ulceration. Constant and free use of some mild antiseptic wash, therefore, is indicated. At the beginning it would be best to thoroughly wash out the eyes as often as every half hour, and as improvement takes place the time between the washings can be prolonged. The eyes should be covered between times with small pledgets of absorbent cotton which have been allowed to remain on a cake of ice till thoroughly cooled; these should be changed quite frequently also. This plan of applying cold to the eyes, as a rule, seems to serve a good purpose in helping to reduce the inflammation during the active stage. Occasionally, though, hot applications are indicated, especially where the cornea is severely involved. In making the examination great care should be taken not to damage the cornea by exerting undue pressure. Incautious and forcible manipulations while examining a struggling infant's eyes, will frequently do more harm than the treatment can do good. The best plan is to allow the infant's head to rest between the knees of the examiner and its hips in the lap of the nurse, both being seated facing one another. In this way, the infant can be easily controlled, and the treatment can be applied more readily. If the lids cannot be separated without exerting undue force, it would be well to administer chloroform, sufficient to cause relaxation. Lid retractors are apt to do injury, and should be avoided. The edges of the lids should be soaked well with warm water, or warm boric solution, and at the same time the lashes should be rubbed gently with saturated absorbent cotton; this unglues the cemented lids, and permits the imprisoned pus to escape. The lids should now be forced gently open with the thumb and forefinger of the left hand, the thumb being used for the upper and the forefinger for the lower lid; this allows of free use of the right hand while cleansing the eye and applying the treatment. An ordinary medicine dropper or soft rubber ear syringe is filled with warm antiseptic solution and injected under the lids from the outer canthus, taking care not to injure the cornea with the point of the instrument. This is repeated time and again until the eyes are entirely cleansed of the secretion. Nitrate of silver, of suitable strength, depending upon the stage of the disease, is then applied to the conjunctiva with a toothpick, wrapped at the end with absorbent cotton, or a small camel's hair brush; or if the lids are too stiff and swollen to be turned, it can be dropped in with a medicine dropper. After a moment the silver can be neutralized with warm salt solution.

If the cornea shows signs of perforation, it would be well to install atropia or eserine, depending upon the location of the impending perforation; this will keep the iris from becoming entangled in the wound, should perforation occur, and it has a good anodyne effect also.

A vast number of remedies have been advised for ophthalmia neonatorum, but the consensus of opinion seems to be partial to nitrate of silver as the most reliable remedy in the treatment of this disease. Protargol has been highly extolled, and is thought by some to be superior to nitrate of silver. It remains to be demonstrated, though, if there is any remedy that can fill all of the offices that nitrate of silver does in this and similar diseases.

The general condition of the infant must be looked after, as this disease has a tendency to greatly debilitate the system. It should have an abundance of good healthy nourishment from a healthy breast, and instead of imprisoning it in a dark close room, as is commonly done among the laity, it should have plenty of good fresh air, and, if possible, occasional sunshine, the eyes being protected from the strong light by light antiseptic dressing.

The nurses must be warned regarding the contagious nature of the disease, and instructed to destroy all pieces of cotton, cloths, etc., which were used in applying the treatment and dressing the eyes. They must also be on their guard and not infect their own eyes; this can be avoided by wearing glasses whilh cleansing the eyes and taking care to wash their hands in bichloride solution after each treatment. Those attending the eyes of the infant must be impressed with the fact that upon their faithful and untiring performance of duty, in the way of diligently treating the eyes, depends the successful termination of the disease.

NIGHT-TERRORS.

FRANCIS HUBER, M.D.,
New York.

HARDLY a week passes but one or more cases of night terrors are presented in the dispensary service of the Children's Department, Vanderbilt Clinic. In many of these several causes act and it is not always possible at first sight to differentiate between the two classes described by Coutts (*Amer. Jour. Med. Sciences*, Vol. III., new series, pp. 156–163).

A study of the opinions of numerous authors, of a large amount of literature, and of carefully observed cases leads him to formulate two comprehensive groups, In the first, the complaint is considered to be reflex in character or due to partial asphyxia owing to abdominal disturbance, naso-pharyngeal trouble or ill-ventilation of the sleeping apartments. To such he would apply the term "nightmare," thus distinguishing them from the second class, "night-terrors." The latter he regards as of central origin, the expression of present brain disturbance, or the harbinger of possible further neuroses in the near or distant future. The two have but one factor in common, the occurrence of fright in the early hours of the night. As a cardinal point of distinction it is insisted upon that in night-terrors the little patients see visions; in nightmare it is sufficient that they merely "dream dreams."

In the mild variety, nightmare, is fortunately the more common, the attacks may occur at any time, are usually preceded by periods of restlessness, and may recur several times during the night. The patient is conscious of his surroundings and recalls the events on the following day.

In the other, night-terrors, consciousness is lost and the patient has no knwledge of the attack when he awakes. Repeated at irregular intervals (varying from a few days to several months) the paroxysms takes place but once during the night and whatever their nature the same general features are observed in subsequent attacks. It is asserted, too, that they are apt to be followed by more serious disturbances, as epilepsy, migraine, hysteria, or insanity.

As ordinarily employed, the term night-terrors may refer to a mild form of mental disturbance or aberration, temporary in character, and readily curable, or the manifestation may be of central origin, the forerunner of the more serious neuropathic troubles referred to above.

In all instances there is an underlying neurotic or neuropathic state. Many of the little patients are pale, delicate, rachitic, or scrofulous; occasionally the child may appear healthy or very rugged. The attacks are excited by morbid dreams, threats, emotions of various kinds, stories of ghosts, goblins, giants, and the usual thrilling nursery literature. Exciting games, dark rooms, and poorly ventilated rooms favor the outbreaks. Heavy, indigestible meals at night, and the use of tea, coffee, or alcohol in any form favor the occurrence in those predisposed. As a rule fever is absent unless of intestinal origin. Large quantities of pale urine are frequently secreted after the attack.

The increased amount of carbon dioxide or rather diminished amount of oxygen in the blood and the vitiated condition of the lutus explains the occurrence of the attacks in those suffering from adenoids.

The causes being so varied, each case must be carefully studied. No one remedy will answer as a routine measure. The mode of life must be investigated, the habits studied, nervous or mental strain avoided, and the influence of parents, companions, and attendants subjected to close inquiry. Scolding or threats should be interdicted. The literature, games, etc., are not beneath the attention of the medical man.

Pale, anemic, and weakly children must be strengthened by general tonic treatment. The rooms should be thoroughly ventilated, the air supply free. Stimulants, such as tea, coffee, beer, etc., shall be avoided; the diet should consist of articles easily digested; a light evening meal a few hours before retiring should be eaten and the bowels regulated. The presence of some person in an adjoining room and a dim light may increase the confidence of the child. When adenoids or large tonsils are present they ought to be resected. In neuropathic cases, bromides, chloral, etc., render good service.

209 East Seventeenth Street.

A CASE OF MITRAL REGURGITATION AND PULMONARY OBSTRUCTION.*

By August A. Eshner, M.D.,
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Physician to the Philadelphia Hospital, Etc.

T. G., a girl, 8 years old, presented herself at the Philadelphia Polyclinic, on June 3rd, 1899, with a history of "nervousness" of the hands and feet, with shaking and weakness for three months. The breathing was said to be heavy during sleep, which was attended with moaning. The appetite was impaired; there had been loss of flesh; and dry cough was present. On examination, the cardiac impulse was excessive and displaced to the left. The area of cardiac percussion-dulness was increased; the action of the heart was rapid and the pulse was 101. At the apex a loud systolic murmur, transmitted to the axilla, was heard, and at the left base a rough systolic murmur and an accentuated second sound. The patient was small for her years, and rather pallid. The finger-ends appeared a little thicker than normal, but not distinctly clubbed. On further inquiry, the mother stated that the lips of the child became blue at time, when crying, but she could not recall whether cyanosis was present at birth or not. The girl had had measles at the age of three, and some inflammatory disorder of the throat six months before coming under observation, said to be diphtheria.

The treatment has included, in addition to regulation of the mode of life, the administration of digitalis, strophanthus, and iron, and the patient has been made quite comfortable, although there has been no noteworthy alteration in the physical signs.

When the patient first came under observation the possibility of a preceding or declining chorea was considered, with endocarditis as a complication, but of this we had no certain evidence. The heart lesion further may have been a complication or a sequel of the attack of measles, or the more recent angina, for I am convinced that any of the infectious diseases may be attended with inflammation of the endocardium, although endocarditis may occur as a primary disorder, and even independently of infection, as when it is part of a general fibrosis or sclerosis. Of the existence of mitral insufficiently in this case there has at no time been any doubt, but I have not been able to satisfy myself as to the nature of the lesion responsible for the character of the sounds audible in the pulmonary area. I have thought that possibly they might be due to some peculiarity in the transmission of the vibrations generated by abnormal blood-currents at the left auriculo-ventricular orifice, but they are so unlike those heard at any other point of the precordium that I am constrained to believe them dependent upon obstruction at the pulmonary orifice. As to the nature of this, however, I must confess, I am again in doubt. There is scant evidence of congential disease of the heart, and with a knowledge of the conditions present I have been led to consider the possibility of pressure exerted upon the pulmonary artery by the necessarily enlarged left auricle, although I am unable to exclude wholly endocarditis of the pulmonary valves.

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*Presented to The Philadelphia Pediatric Society, February 13, 1900.

Addison's Disease in a Young Girl.—M. Haushalter (*Gazette hebdomadaire de médecine et de chirurgie*, Sep., 14th) recently exhibited to the Medical Society of Nancy, a young girl, 10 years of age, affected with Addison's disease. The affection was of about two months' standing and was marked by lassitude, melancholy, and an abnormal pigmentation of the face, neck, and back.—*Alienist and Neurologist.*

EDITORIAL COMMENTS

Antitoxin as an Immunizer

In the *New York Medical Journal* for February 17, 1900, Dr. J. S. Billings, Jr., makes a timely plea for larger and more frequent immunizing doses of antitoxin. His conclusions merit attention:

"1. The increased number of cases of diphtheria in New York City in 1899 is probably due in part to neglect of a most important prophylactic measure against the disease, i.e., immunization by antitoxin.

"2. Immunization furnishes one of the most potent means of preventing the spread of diphtheria and lessening the number of deaths from this disease.

"3. It is probable that in some cases the immunizing dose of antitoxin hitherto recommended (150 units) is insufficient, and that at least 300 units should be used in children and 500 in adults. Owing to improvements in the mode of preparation and the increased concentration of the antitoxic serums now in use no ill effects are to be apprehended."

Otitis Media in Nursing Infants

The etiology and pathology of this affection is the subject of an interesting and laborious paper by Siegfried Weiss in Ziegler's *Beiträge zur Path. Anat., etc.*, xxvii, 1900. The article is based upon a study, clinical and pathological, of twenty-eight cases. A large list of authorities is added and an instructive and well-made lithograph plate appended, making in all the best treatise on the subject that we are acquainted with. It is not altogether just to the author to state his conclusions only, but there is no space for more:

"1. Otitis media of the new-born and of nursing infants is caused by the usual bacterial agents.

"2. Infection occurs by way of the Eustachian tube, and also, though far more rarely, through the circulation.

"3. The extradinary susceptibility to otitis in this class of patients is perhaps due to the persistence of embryonal characters in the mucous membrane of the middle ear.

"4. Otitis media in sucklings rarely causes much fever or systemic disturbance. It has little retarding influence upon growth and rare occurs with pedatropy."

In respect of the ultimate influence of otitis at this age upon the child's hearing the writer makes no remark.

"Over-Pressure the Bane of Modern Education"

We quote the following from the *Medical Record*, February 17, 1900, with entire approval: "The harm done to children by the present methods of education is too real to be ignored. The conditions of civilized life have so completely changed within the past half century that it becomes daily more and more evident that measures must be taken to meet the new situation and to endeavor to propagate and raise a race better fitted to withstand the strain of modern existence. When children were brought up in the country, spending the greater part of their time in the fresh, open air, considerations as to physical development did not enter into the question. The environment being healthy and food plentiful and nutritious. the natural sequence was that the human product grew up hardy and robust, well equipped for the battle of life. The ever-increasing tendency to desert the country for the town has placed a fresh problem before our scientific men and sanitarians. Children are born and pass their youth amid unhealthy surroundings, in many instances improperly and irregularly fed. In addition to these serious disadvantages they are still further handicapped by the undue stress of school life. The sole aim of modern education would seem to consist in the attempt to develop the mind at the expense of the body. The necessity of exercise and fresh air as a part of a child's training is strangely overlooked. Mental and physical education should go hand-in-hand. Wherever possible playgrounds of ample scope should be attached to schools, and, above all, young children should never be expected to work longer than two hours at a stretch."

The author of that piece of delightful drollery, "The Last American," writing as a Persian in the year of grace 2951, says the "Mehricans" had become long since extinct by reason of their haste for money-getting, their over-wrought nerves, and their improperly reared children. The germ of truth that the story contains should not be missed, and even though by our "continual coming" we weary the profession in this matter, it yet merits the wisest and best thought of our time that the new generation should be properly fed and wisely and symmetrically developed.

Transmission of Vaccine from Mother to Child

In a communication to the Académie des Sciences, MM. Bar, Béclère, Chambon, and Cávlán present the following conclusions:—

1. Vaccination of pregnant women with vaccine of proved strength, even when practised during the last months of pregnancy, whatever be the number or success of the vaccinations, does not assure in a constant and certain manner the intra-uterine transmission of vaccinal immunity from mother to child.

2. Vaccination of pregnant women, when it is followed by intra-uterine transmission of immunity from mother to child, gives the latter only a short immunity similar to that given by immunizing serums but inferior to that which follows the sub-epidermic inoculation with vaccine.

3. To assure the new-born complete and lasting immunity which only the sub-epidermic inoculation of vaccine can confer,

it is preferable not to vaccinate women during pregnancy. provided they have not been exposed to small-pox, although vaccination causes them no trouble.

4. During epidemics of small-pox, on the other hand, vaccination of pregnant women is a measure required for the safety of both mother and child.

Lumbar Injection of Cocaine

Recently several major operations have been performed under the partial anesthesia obtained by the injection of a solution of cocaine beneath the lumbar arachnoid. Lumbar puncture performed for diagnostic or therapeutic purposes is absolutely harmless, now anesthesia of the pelvis and lower extremities is produced by a somewhat similar technique. The patient is placed on his side, the legs being flexed on the thighs and the thighs on the pelvis in order to separate the laminæ of the lumbar vertebrae. The space between the last lumbar vertebra and the sacrum is the preferred region but that between the fourth and fifth lumbar answers well. A small trocar or stiff needle about 10 cm. long is used. The instrument, field of operation, and hands of the operator are thoroughly cleansed; then the needle is boldly directed toward the median line, and the solution is slowly injected. In the adult it generally requires 1 cg. of cocaine in solution in one or more centigrams of water to produce anesthesia. If the operation is prolonged, the injection may be repeated. Anesthesia is produced in from five to ten minutes. While headache, nausea, and vomiting which are of short duration sometimes occur, no cardiac or respiratory symptoms have as yet been noted.

Hypertrophic Dilatation of the Large Intestine in Infants.

Dr. Alex Johannessen, professor of medicine at the University of Christiania, reports three cases of this affection in *Revue Mesuelle des Maladies de l'Enfance*, for

February together with an extensive review of the literature of this subject. He gives Jacobi credit for having described the symptoms of this trouble, which include dilatation of the abdomen and chronic constipation frequently alternating with diarrhea ; on autopsy are found dilatation and lengthening of the large intestine, especially in the region of the sigmoid flexure, together with hypertrophy of its walls and sometimes ulcerative lesions ; the rectum is generally normal. Immediately after birth there is some paresis of the intestine. The frequency of the stools is variable, sometimes only some days intervene between the movements, while at times the interval may be two weeks or more. There may also be diarrhea of variable duration and severity. Occasionally there is vomiting. Dr. Johannessen does not think that the ulcerations have any relation with the etiology as they are not found in all cases, but that they are rather a result of the condition, the decomposing fecal matters causing an interstitial colitis accompanied by an obliterating endarteritis. To explain the hypertrophy of the colon he calls attention to the established anatomical fact that in infants the sigmoid flexure, is very long and runs transversely from left to right and then returns from right to left. This may be because during fetal life, the large intestine, and particularly the sigmoid flexure serves as a reservoir for the meconium which causes it to attain such a size that there is not room enough in the pelvis for it. In 276 autopsies Szokolow has found the sigmoid on the right side in 55 per cent., on the left in 48 per cent., and in the middle line in six per cent. He has also shown that the position of the sigmoid depends on the nature of its contents as well as the length of its mesentery. If it is empty or only partially filled so that there is no tension on its walls, it forms several coils side by side or even descends into the pelvis, where it forms a coil by the side of the rectum, while another coil ascends to the right or left iliac fossa. Now if the part in question is filled with air or water, it changes its position at once, the number of curves diminishes, and all the relations may be disturbed. It is clear that such a condition is liable of itself to give rise to accumulations of feces, so as to retard considerably the onward movement of the intestinal contents. It is quite possible also, for distension of a coil to cause compression at an adjacent bend, from which may result more or less occlusion of the gut. The author calls attention to the fact pointed out by Treves that local distension of the intestine may be due to nervous or vascular influences. The latter writer has produced meteorism in animals by ligature of the mesenteric artery. The intestinal hypertrophy then is due to overwork, such as occurs in the case of the bladder when the discharge of urine is impeded.

Cremation of New York's Garbage.—A bill is to be introduced into the Legislature providing for the establishment of a crematory plant for the consumption of the garbage of this city. This will abate with the garbage-reduction nuisance on Barren Island, and will provide New York City with an adequate and sanitary process of disposing of its garbage.—*Med. Record.*

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting January 18, 1900.

WILLIAM H. THOMSON, M.D., President.

Myocarditis in Infants and Children.—Dr. HENRY KOPLIK read this paper. He said that if we were to judge of the frequency of this disease from the mention made of it in pediatric text-books it would be put down as quite rare; yet nearly all of our present knowledge of myocarditis had come from the study of the myocardium in infants dying of acute infectious diseases. Myocarditis was one of the most important conditions confronting the physician at the bedside. Any autopsy upon a diphtheritic, scarlatinal, or typhoid subject would almost uniformly show changes serious enough to have caused death. It was of the most importance to remember that Romberg had found these changes to exist only in foci, and not affecting the whole of the myocardium—in other words, portions of the heart-muscle might be quite normal and others degenerated in a fatal case of myocarditis. It has long been a question whether the temperature, or the toxins, or the bacteria, individually or combined, were the cause of myocarditis occurring in connection with infectious diseases. Experimental investigation seemed to show that both the high temperature and the toxic element were capable of exciting myocarditis in infectious diseases. The myocardium was peculiarly susceptible to the action of any toxin; the fever played a subordinate rôle. Some of the most toxic and fatal diphtherias or pneumonias ran their course with a low temperature, yet caused fatal changes in the muscle cells of the heart. The symptoms point, as a rule, to some functional weakness of the heart muscles, as evidenced by the feeble and disordered action of this organ. Striking features of the treatment with diphtheria antitoxin was the important supporting effect of this treatment upon the muscle-fibers of the heart. Hesse, in the pre-antitoxin days, had proved that sudden death might occur at the *outset* in this disease from the effect of the diphtheritic poison upon the heart. The pneumonias of infancy and childhood furnished their quota of evidence regarding the effect of toxins on the heart muscles. He had often seen at the outset of a pneumonia an infant overwhelmed by the disease. Such infants were apt to be overfed and to present at the beginning evidence of cyanosis and a rapid and feeble heart-action. It was impossible to say in such cases whether the heart was fatty or whether it was overcome so early by the toxins of the pneumonia. In severe cases of pertussis the heart was subjected to great strain. Osler had commented upon this strain occurring in the heart in such cases and its consequent effect in producing heart disease later in life. In all these cases the heart-action was weakened and was associated with dyspnea, drowsiness, and pallor. Auscultation would show a slight blowing murmur at the apex. The pulse was weak and dicrotic. These were the consequences, not only of the strain occurring during the paroxysm but of the toxins of the disease. It was common to find evidences of healed myocarditis in children. In the active stage of an acute endocarditis one could make out a palpable increase in the relative cardiac dullness. This diminished during convalescence and if the disease were cured the heart-area would return to the normal. The most trying cases were those of adherent pericardium. In most of these the changes in the pericardium were associated with changes in the endocardium. The muscle fibres were actually destroyed and replaced by connective tissue.

Diagnosis.—The literature showed that the most extensive myocarditis might be found during life, and yet no symptoms referable to the heart would be observed before death. This fact has engendered a pessimistic attitude toward the subject of the diagnosis of myocarditis during life. This was unfortunate because in a large number of cases the symptoms were at least sufficiently pronounced to put the careful physician on his guard. If examination of the heart showed extreme weakness of the apex beat and weakness or disappearance of the muscular character of the sound, one certainly had evidence of impending danger to say nothing of the inferences to be drawn from the presence of pallor and dyspnea. The modern tendency toward a general supporting treatment should be encouraged and the physician should be exceedingly careful not to induce fever in acute infectious diseases at the expense of the strength of the heart.

Hyoscine Hydrobromate In Chorea.—Hyoscine hydrobromate has been tried by A. C. Rendle, of Madras, India (*Brit. Med. Jour.*, No. 2013, 1899), on a bad case of chorea in a youth of 16 years. He was thin and anemic; the temperature was slightly raised; the tongue was dry and coated with a brownish fur; the pulse was weak and the respirations irregular; there were constant involuntary movements. Albumin was present in his urine. Potassium bromide, chloral hydrate, and increasing doses of arsenic gave no relief. He was very restless at night, and morphine eased him slightly. Hyoscine hydrobromate in doses of 1/200 of a grain was injected hypodermically twice a day. On the day following the first injection there was marked improvement in the choreal movements. The dose was increased to 1/100 of a grain and given three times a day. In a week the movements had almost entirely ceased. The hydrobromate was then discontinued and the arsenic treatment resumed. The patient made an excellent recovery. Chorea is an extremely fatal disease in India.—*Alienist and Neurologist.*

ABSTRACTS.

MATERNAL IMPRESSIONS.

Dr. James G. Kiernan (*Jour. A. M. A.*, 9 Dec. '99) taking this topic for consideration, said that maternal impressions have been considered from one standpoint only, and that is as to their supposed cause and its method of action. As the supposed cause is psychic, and, in the conception of it usually adopted, immaterial in action, an absurd credulity respecting its powers which existed at onc time among obstetricians has given way to an equally absurd skepticism. The subject has not been discussed by either set of partisans from a scientific critical standpoint. At the January session of the Academy the skeptical spirit evinced itself in denial of facts authenticated by embryologists and ornithologists of unblemished repute. The case was further supported by teratologic specimens in the British Museum.

Spitzka had his skepticism as to maternal impressions shaken by these specimens, which were newly-hatched chicks with a curved beak like a parrot and the toe set back as in that bird. The hens in the yard where these monstrosities were hatched had been frightened by a female parrot which, having escaped, fluttered among them before the eggs were laid and greatly frightened the hens from whose eggs the malformed chicks were hatched. This would seem at first sight to confirm the photographic theory of maternal impressions. The fact is, however, that these malformations are simply arrests of development. Birds, being aberrant reptiles, belong to the *Sauropsidæ*. During their embryonic development birds pass through a reptilian phase. It was at the end of this phase that the chicks were arrested in development producing the parrot-like malformation. It is precisely for lack of a logical explanation like this that modern obstetricians are skeptical. In a general way cases reported of maternal impressions may be divided into two classes:

1. Those in which an arrest of embryonic development has occurred, which may or may not be traceable to the alleged impression.

2. Photographic impressions charged to a factor utterly incapable of producing them because of the late period in embryonic life at which the impression is alleged to have acted. Of the cases which he first presented, Dr. Kiernan said: "It presents features which might be a basis for a myth, like that of Europa and the Bull, or that of the extravagant antics of Pasiphæ, which produced the Monotaur. Although the physician did not accept the explanation, the gossips of the neighborhood charged the monstrosity to fright by a bull which occurred at the eighth month of pregnancy. The bull-like face presented in both heads is the result of an arrest of development at a much earlier period. It is obvious that no force could so turn back the clock of embryonic development as to produce in the eighth month of intrauterine life changes which must have been based upon arrests of development established during the first.

In the second instance, which is also of a double monster, there would seem to have been indicated possibilities of superfetation. Of this there is no evidence. The condition was charged to a fright during the seventh month of pregnancy at an engraving of a double-headed monster, seen in a traveling show. It is perfectly clear that this fright could have had no influence whatever in the production of the monstrosity.

The next case is a cyclops. Cyclopea is the result of arrested development of the later acquired paired eyes and undue development of the middle eye, which ordinarily becomes the pineal body. The condition here found is practically the condition which exists in the provertebrates, like the ascidians. The eye of the ascidian tadpole agrees fundamentally with the type of eyes peculiar to the vertebrates, since the retina is derived from the wall of the brain and is therefore called myolonic. The pineal body is a remarkable rudimentary structure whose constant presence in all vertebrates forms such an eminently characteristic median outgrowth from the wall of the brain. The distal extremity of this dilates into a vesicle and becomes separated from the proximal portion. The distal vesicle becomes entirely constricted from the primary pineal outgrowth of the brain. The remote ancestor of the vertebrates had a median unpaired myolonic eye which was subsequently replaced in function by the evolution of the paired eyes. This is shown by study of ascidian and lancelet eyes collated with cyclops and triophthalmos in man, the normal eye and the third eye of reptiles like the hateria of New Zealand.

As Daresta has shown, production of a single eye, the changes in the structure of the moutn, the atrophy and the change of normal situation of the olfactory apparatus, and of the vesicle of the hemispheres, result from an arrest of development. The determining influence must be exerted very early in the life history of the embryo. In this case the mother, who is a girl of 17, during the eighth month of pregnancy, visited a circus. This was followed by a dream anent animal monsters, and to this dream was ascribed the monstrosity. It is obvious that this dream could have exerted no influence whatever. The last case is one which might have been produced by a maternal shock. The condition of meningocele here presented could have been produced by an alteration of cerebral pressure, which again might result from a disturbance of the maternal blood-pressure, through a shock. The fact that mental shocks can only act on the organization in a purely physical manner is equally ignored by opponents and advocates of the psychic theory of mental impressions. All that is known of mind is known of it as related to purely physical conditions, and it is through pure physical conditions that it must act, whether its action be initiated by conditions affecting physically the various sense organs or not. There is no doubt that the fetus is liable to mental effects from the mother, since, as Fere has shown, it often exhibits very decided reaction to sensory impressions on the mother. Women in the midst of an ordinary dream, producing only very moderate excitation, not generally interrupting sleep, are often awakened by fetal movements. These dreams need have nothing of the nightmare which would cause sudden contraction under the influence of a terrifying idea with its resultant cardiac disorder. They may be merely the ordinary phenomena of sleep. Mental changes of the mother hence excite motor reaction in the fetus and, as with sensorial excitations, these reactions are stronger in the fetus than in the mother. The mechanism oi these motor reactions is obviously the unconscious and involuntary movement of the uterine walls. Dr. A. Lagorio, some sixteen years ago, brought before the Chicago Medical Society several cases in which maternal impressions had produced decidedly abnormal births with deformities resembling those feared by the mother. In discussing these I pointed out that they were all instances of checked development, and advanced the opinion that normal shock generally directed played the chief part in maternal impressions through checking development and causing either general or local reversion. Here the statistic method can be applied. Of ninety-two children born in Paris during its last siege, sixty-four had slight physical or mental anomalies. The remaining twenty-eight were all weakly; twenty-one were imbecile or idiotic, and eight were morally insane. These figures of Legrand du Saulle justify the characterization by the working class of Paris of children born in 1871 as "doomed children." In Berlin the financial crisis of 1875–80 was followed by an increase in the number of idiots born. It must be remembered that profound mental shock can alter nutrition so that the mother should furnish poisonous products in lieu of nutriment. That such poisonous products would tend to check fetal development no one will deny. While rejecting the photographic phase of maternal impressions it must be admitted that there exists a class of cases showing arrested development which is due to the effects of mental shock upon the mother. In the light of the discoveries anent the neuron the absence of neural connection between mother and fetus has not its former significance.

THE PATHOLOGY AND TREATMENT OF WHITE SWELLING OF THE KNEE.

A. B. Judson, M.D. (*Medical News*, Dec. 30) says: The positive prescription is, give cessation of function to the inflamed bone and joint of the knee by arresting the double function of motion and weight-bearing. To arrest motion a posterior upright is employed which extends sufficiently far above and below the knee to give an efficient leverage. It is padded at its ends to make comfortable counter-pressure from behind forwards at the upper part of the thigh and the lower part of the leg, and it carries two cross-pieces, each half surrounding the limb, but not touching it, with four buckles at the ends of the cross-pieces in which are adjusted the two padded straps crossing the front of the limb to make pressure from before backwards, above and below, and near the knee. This fixative brace is worn day and night.

To arrest the weight-bearing function the ischiatic crutch is used. This is worn only when the patient is up. It may be said to put the limb to bed while the patient runs about. It is applied with a high sole on the foot of the unaffected side. A point requiring especial attention in the adjustment of this crutch is the length of the seat strap. If, on the one band, this padded strap is too long it allows the pelvic band to take too high a level whereby it makes uncomfortable pressure on the anterior superior iliac spine. If, on the other hand, the strap is too short it holds the pelvic band at too low a level, thus causing painful pressure on the pubes.

In a case in which the knee is unduly flexed the fixative brace may be used to correct the deformity, by taking advantage of the tractable quality of the steel, the knee and the brace having imparted to them, first one and then the other, an additional modicum of extension, or straightening. This is accomplished by buckling the pressure straps tighter and straightening the brace by the use of the vise and monkey-wrench.

Each case will be found to have its own peculiarities and contingencies and troublesome details which will have to be met individually. In general the success of mechanical treatment depends very much on the co-operation of the patient, or, in the case of children, on that of the parent or other immediate attendant.

GENERAL REMARKS ON PROLAPSUS OF THE RECTUM IN CHILDREN.

CHARLES GREENE CUMSTON, M.D. (*Jour. of Med. and Science*, 1900, vi., 37) writes as follows: This paper is only supposed to treat the surgical aspects of prolapsus recti. The large majority of cases of prolapsus of the rectum in children will readily yield to medical treatment if instituted early. The judicious use of a rubber rectal plug to keep the prolapse reduced, cleanliness and tonic treatment with the use of strychnine will probably give the best of results. If the prolapsus has for etiological factor a polypus, hemorrhoids, or other local lesion, it is very evident that the surgeon's efforts should be directed towards the cure of the latter, and generally after this has been accomplished a proper medical treatment will do away with the prolapsus if it is not too far advanced.

When a prolapsus has reached a certain stage, when it has become irreducible, or when it has become constricted by the sphincter ani and gangrene is imminent, resection of the prolapsed part is the method of choice.

As to the technique of the operation it varies very greatly and almost every surgeon has devised some method of his own. Some produce an artificial anemia by applying a rubber tube around the base of the tumor, and this is prevented from sliding off by transfixing the gut with a long needle, just as is done in Wyeth's amputation of the hip-joint. The prolapsus is then sutured to the circumference, five or six sutures usually being enough, and then the tumor is simply removed by scissors or knife. Hemorrhage is extremely slight. Raye and Volkmann operate in this way with the exception that they do not resort to artificial anemia; they both suture the bowel first and then perform resection below the line of sutures. Volkmann stitches the mucosa of the anus and that of the rectum, which is situated a little higher up, with a fine stitch. Raye, not being satisfied that he had closed the abdominal cavity by means of his circular sutures, thought it more prudent to peel back the peritoneal cul-de-sac very carefully off the gut and then ligate it at its neck with cat-gut, cut off the sack thus formed and allow it to retract into the pelvis, by doing this he dealt with the condition just as we do in the radical operations for hernia.

Some French surgeons, especially Nélaton, Ségond, and Trélat, employ a somewhat different technique, their chief point being to operate with as complete an artificial anemia as possible. Two long clamps are placed parallel to each other and side by side on each half of the prolapsed gut, so that one blade of the forceps is placed within the lumen of the prolapsus while the other remains outside. The gut is then slit open between the clamps in its entire length up to the anus, the result being that the prolapsus is divided into halves, forming an anterior and posterior flap without any hemorrhage whatsoever; Nélaton divides the prolapsus laterally making two lateral flaps. Next comes the resection of the two flaps and the introduction of the sutures. The resection is carried out in such a manner that the clamps are first applied across the base of the flaps and then resection is carried out by slowly snipping the gut across with scissors, a suture being inserted after each snip. Pean operated on a case where he first divided the prolapsus into an anterior and posterior flap, but he did not use clamps, employing the rubber tube at the base of the tumor instead.

Treves first endeavors to ascertain the exact nature of the tissues entering into the formation of the prolapsus before resection is done. He does not resort to any form of artificial anemia, but immediately proceeds to make a circular incision which simply includes the external mucous membrane which is carried to the apex of the prolapsus by folding it back like a cuff and attaching the latter; one is thus enabled to obtain a good view of the tissues entering into the formation of the prolapsus. Only after this has been done resection of the gut is performed by means of small incisions of about 2 cm. long, after which forceps are applied until entire resection has been accomplished. The application of the forceps not only prevénts hemorrhage but also retains the intestines, which can not glide back out of reach. When resection has been completed the forceps are removed one after the other, each bleeding vessel being caught up and tied with catgut, and union of the edges of the gut is accomplished by carefully applied silk sutures.

Mickulicz first cuts through the outer intestinal tube in its anterior circumference by cutting the tissue layer after layer, catching up each bleeding vessel as it appears and ligating it with fine catgut. As soon as the peritoneal pouch has been opened its interior is examined for the presence of small intestine. The peritoneal cavity is then closed by a running suture. The anterior aspect of the internal intestinal tube is cut through little by little until it is opened, and then both intestinal tubes are united by deep silk sutures to the entire line of incision. The posterior circumference of the prolapsus is treated in absolutely the same way, both intestinal ends being united by means of silk sutures, and thus the resection is completed.

Mickulicz advises against packing the rectum after the operation, as he considers that all dressings placed in the lumen of the rectum are superfluous, and under certain circumstances may be even dangerous. He simply covers the line of sutures with iodoform and then places a strip of iodoform gauze over this, which is then in turn covered by a wood-wool cushion, and this is the dressing that I have used. It should be changed every day or oftener if necessary.

Much attention must be directed to keep the surfaces very clean, and for this purpose a daily irrigation with a mild antiseptic solution, such as boracic or salicylic acid, is of value. Opium should be given internally for about a week following the operation in order to keep the bowels bound up, and, of course, the patient must be kept upon a diet that will leave as little intestinal residue as possible.

If a man is any kind of an operator he can certainly easily control the slight amount of hemorrhage that may occur. The great danger from the use of the clamps or the rubber tube lies in the fact that there may be a hernia of the small intestine, and this we never can diagnosticate with surety until the peritoneal cul-de-sac has been opened. In the author's opinion by far the best method to follow is that described by Mickulicz, which has already been detailed.

The author also points out that resection of a triangular piece of skin and mucous membrane at the posterior aspect of the anus is a very good complementary operation in those cases where we wish to give greater support to the parts.

Within the last few years other operations have been proposed and executed for the relief of the more serious types of prolapsus recti, one of which is due to Jeannel, which he terms colopexia, and by Verneuil colopexotomy. Jeannel makes an incision over the left Poupart's ligament as is done in Littré's operation of colotomy. The descending colon is then searched for and is drawn up into the wound until the prolapsus is completely reduced. The gut is then stitched to the incision in the abdomen and then a few days afterward it is opened in order to obtain an artificial anus. This artificial anus is closed later on after the adhesions have anchored the bowels securely in place.

CASE OF ABSCESS OF THE LIVER IN A CHILD TWO YEARS OLD

MONCORVO (*Rev. Mens. des Mal. de l'Enf.*, 1899, xvii, 544) after a brief review of the history of the subject of abscess of the liver in infancy reports at length a case which occurred in his practice.

The child was a boy, half-breed, aged two years, with an undisputed syphilitic history. The youngster while playing fell and struck his right side against a door-step. Next day he began to complain of pain about on a level with the right costal margin. At the same time there was a considerable rise of temperature. He became dejected, cross, gradually lost appetite, and suffered from constipation. During about one month his condition did not change very much; then he got pale, thin, fretful, lost his appetite entirely, while constipation became absolute, and sleep was interrupted by groans, especially when he moved in bed.

During the fortnight before his presentation at the clinic the fever became remittent, the maximum temperature occurring in the evening. About the same time a swelling was noted on the right side of the abdomen about opposite the anterior margin. This enlarged gradually; it was easy to establish a certain amount of softness at its summit. Constipation remained obstinate, and, three days before his admission, he was taken with vomiting. The following points were noted in examination: Oval prominence on the right side of abdomen situated about 2 cm. below the costal border and more or less parallel with it. The long diameter of the oval was about 9 cm. and the short about 6 cm. Palpation showed fluctuation throughout nearly the whole extent of the swelling. The skin over it showed no alteration in color or temperature.

The zone of fluctuation was situated over the liver which was considerably increased in volume, its lower border being 6 cm. below the free border both in the sternal and the mammillary line. The surface of the gland beyond the area of fluctuation was smooth throughout and of uniform hardness. It was very tender on pressure. The mother said the infant would shriek out on account of sharp pains which appeared from its gestures to go up to the right shoulder. Even light percussion in the right hypochondrium caused him to shriek. The belly was somewhat swollen. The area of splenic dullness increased; no icterus; obliquria. Examination of the urine showed absence of albumin and sugar. After an exploratory aspiration which confirmed the diagnosis the abscess was opened by Little's method. About ten days later the wound had entirely healed and the patient was in good health. Among the causes of abscess of the liver in infants Moncorvo mentions: Septicemia; appendicitis, the infective agent passing through the blood vessels to the liver; the passage of lumbricoid worms through the billiary ducts; typhoid fever, very rarely indeed; dysentery, regarded also as a very rare cause; tuberculosis; traumatism; to the last he ascribes the origin of the case reported.

KOPLIK'S SIGN IN THE DIAGNOSIS OF MEASLES.

Henry Koplik (*Maryland Med. Jour.*, Feb., 1900, p. 99) writes as follows: This sign is only of value as it appears on the buccal mucous membrane (the inner surface of the cheeks and lips). Any signs, spots, or appearances on the hard and soft palate, the pillars of the fauces, the conjunctiva, are of no value and rather misleading, for signs and spots exactly similar to those described on the hard and soft palate and pillars of the fauces appear not only in measles but also in rötheln, scarlatina, grippe, and simple sore throat. The buccal spots, as described by me, appear only in measles, and in none other of the exanthemata, and to my positive knowledge in no other known disease of the mouth or any constitutional affection. They must be looked for in a very strong daylight. They must be seen in the discrete state, that is, small, irregular, rose-colored spots, with a very minute bluish-white speck, just large enough to be visible in the center of the rose area. Patches of yellowish specks must be excluded. We study the buccal membrane by everting it toward the light with the finger or a depressor. We observe the inner surface of the lips also.

In my first paper I called attention to the great value of this sign in distinguishing between measles and cases of rötheln or rubella. Since then I have studied this very important part of the question faithfully in many hundreds of cases of rötheln in what might be called small local outbreaks of the disease.

I have become impressed with the fact that this buccal sign is valuable in aiding us by *its absence* to make a diagnosis of rötheln. Many cases of rötheln in a recent series of cases here in New York in my clinical and private practice have resembled measles so closely that practitioners studying with me have at first pronounced them true measles. We have taken great pains to study all these cases, and I have found that they were classical rötheln. The exanthema disappeared in two or three days leaving no pigmentation or desquamation. The fever, at first 102°, rapidly subsided to the normal. There were no sequelæ, no complications. They corresponded in every way to the descriptions of Thomas. In all such cases the measles spots were *invariably absent*. In some of my own families subsequently cases of rötheln cropped out among the other children. Here, as in the first cases, the spots were absent. The identity of the affection was thus proven. The value of the sign in excluding measles is apparent. It proved to me also that rötheln is a disease *sui generis*, distinct from measles. I have lately had several cases of undoubted rötheln in adults contracted from children, the adults and children being in one case in the same family. In both adults and children the spots were absent. I suspect that many cases of other observers of so-called measles, in which the "spots" were absent, have been aggravated cases of rubella or rötheln.

TWO CASES OF PULMONARY SURGERY IN CHILDREN.

N. Jablocow, Privat-Docent in Pediatrics at the University of Moscow (*Annales de Médicine et Chirurgie Infantiles*, 1900, iv, No. 2, p 14) by way of introduction to the report of the two cases briefly abstracted below, says that the success obtained in the application of surgery to diseases of the lung is very much inferior to what had been hoped for. Among pulmonary affections that have been treated surgically he mentions.

1, Foreign bodies; 2, tuberculosis; 3, dilatation of the bronchi; 4, abscess; 5, gangrene; 6, echinococcus.

After stating briefly the result obtained in these affections he reports at length the following cases:

1. H. M., male, peasant, admitted to hospital November 22, 1897, with fever, a pain in the chest and cough. The child had been taken sick fifteen days before. In the last few days he had grown weak and his cough had

increased. On admission the child was pale and weak, complained o pain in the right hypochondrium on coughing; the breath was fetid; there were no carious teeth and no stomatitis. Pulse 12; respiration 40-48; temperature 39°-40.3° C.

Physical examination.—On percussion, to the right and behind, dullness, which began at the middle of the scapula and extended to the lowest part of the lung; laterally it extended the whole length of the axillary line. On auscultation, bronchial breathing with a few crepitant râles; in front, weakness of the vesicular murmur but no dullness. Heart, liver, and spleen seemed normal; no albumin was present in the urine. During the course of the disease the temperature varied between 38° and 39° and some tenths. The patient coughed in paroxysms, somewhat resembling whooping cough. The breath became unbearable; on several occasions there was vomiting of a thick, shreddy, fetid material, after which the patient was somewhat relieved.

The objective symptoms extended in front into the right half of the chest; beginning at the third rib there was a metallic note on percussion; on auscultation amphoric râles and absence of vesicular murmur. Behind the dullness persisted and the moist râles had become more numerous. Diagnosis on admission, pulmonary gangrene. Later, by careful examination and exploration punctures, the seat of the trouble was determined. December 20th opening of the cavity was undertaken under chloroform. First a portion of the seventh rib was resected subperiosteally in the anterior axillary line. Firm pleural adhesions were encountered over all the apertures, and incised; then a scalpel was plunged perpendicularly into the lung and a cavity the size of a child's fist was freely opened. There escaped from the cavity a brownish, hard mass of gangrenous lung tissue besides other débris, and a quantity of bloody fluid of a repulsive odor. The walls of the cavity were soft to the touch and irregular. The cavity was washed with boric solution and tamponed with sterile gauze; hemorrhage was insignificant. The next day there was marked improvement. The patient slept better and was not tormented by such frequent paroxysms of coughing, the respirations were less frequent, and the temperature fell to 37.8° C. The appetite and general condition were better. The child did well for a time, then about the same symptoms recurred and several subsequent operations were undertaken to open up cavities adjacent.

The child finally died June 28. The autopsy showed the following: The lung was adherent to the parietal pleura over almost all its surface; the left lung was free from adhesions. The portion of the lung about the seat of operation was partially composed of little cavities about the size of a hazel-nut and containing purulent detritus, some of which seemed caseous; at other points the lung tissue was gangrenous. The outer surface of the lung was composed of a thick stratum of condensed lung tissue, impenetrable to air and transformed into a cicatricial moss. In the neighborhood of the place where the rib had been resected the gangrenous focus was entirely superficial. By following the bronchi it was seen that they opened directly into the cavity, and, in places, communicated with one another.

It is evident that in the beginning not one but several gangrenous cavities should have been dealt with, which fact was impossible to know by the usual means of diagnosis. The author regrets that he had no x-ray apparatus at that time.

Second case.—E. A., girl, 6 years old, was admitted to the hospital June 15, 1898, with fever, pain in the chest, and cough. Four or five weeks before she had had an attack of influenza which was complicated by pneumonia. At the time of admission there had not been a crisis.

On admission the child was thin, pale, with a temperature of 38° to 39° C. She complained of pain in the right side of the chest and frequent cough, and not very abundant mucus expectoration. The gums were cyanotic, the buccal cavity and throat were normal.

The fourth, fifth, and sixth intercostal spaces were painful; in the fifth interspace, on palpation, a very painful swelling was noted, 6 by 4 cm. On percussion of the front part of the chest on the right side, there was dullness from the third rib to the lower part where pain prevented it from being accurately determined; behind dullness commenced at the middle of the shoulder blade and became absolute below and towards the axilla. On auscultation the vesicular murmur was weakened both in front and behind, likewise the thoracic vibrations; there were moist râles and on the affected side a bruit which might have been pleuritic friction sounds. Respiration 30; pulse 90. The heart was normal, likewise the liver and spleen; the abdomen was distended; the urine contained no albumin.

From that time the patient continued to have fever and painful cough. The objective signs remained unchanged. Pleuritic exudate was thought of but exploration puncture below the shoulder-blade and in the axilla gave a negative result. Later on exploratory puncture gave a syringeful of thick, bloody pus.

Thinking he was dealing with an empyema, on July 28th the author made an incision in the fifth interspace over the most prominent part of the tumor; the pleura was opened and about half a cupful of odorless bloody pus escaped. Pleural adhesions were present around the wound. On introducing the finger we found a cavity of the size of a hen's egg hollowed out of the pulmonary parenchyma. A moment later, in a fit of coughing, the purulent secretion became frothy and contained air-bubbles. The cavity was irrigated with a warm salt solution and packed with gauze; the operation had caused only slight hemorrhage. The temperature fell the same evening to 37° C. in place of 39° of the evening before. No tubercle bacilli were ever discovered.

By October, 1898, the girl was in perfect health. The local signs consisted then of a depression of the chest-wall at the seat of operation; there was a funnel-shaped cicatrix about which there was still some dullness and diminution of the vesicular murmur.

This case the author classes among acute abscesses of the lung, in which surgery has most chance of being of service. It shows the difficulty of diagnosis between acute abscesses of the lung and encysted empyema, especially if the former is peripheral. The discovery of elastic fibres in the expectoration can sometimes clear up the diagnosis.

CASE OF SARCOMA OF THE STOMACH IN A CHILD AGED THREE AND A HALF YEARS.

James Finlayson, M.D., LL.D. (*Brit. Med. Jour.*, 2 Dec. 99) reports this case as follows: The case during life was a clinical puzzle, and after death it proved to be a pathological rarity. Sarcoma of the stomach seems to be uncommon at any age, but in early life it is very rare, and this is the only case I know of in a young child.

The boy was only 3½ years old when admitted to the Royal Hospital for Sick Children, under my care, on August 22, 1898; he died on December 6th. The aspect was that of feebleness, with great pallor or anemia, and with slight indications of rickets, especially in the lower limbs. The pallor was very extreme and did not seem to be accounted for by anything in the previous history, which was simply that of failing health for three months after an attack of vomiting of short duration. This vomiting was not associated with any appearance of blood; it was followed by disturbed action of the bowels—at first constipation, latterly intercurrent diarrhea. A vague account of some tarry motions was obtained from the mother, but nothing of this kind, indeed no blood in the motions in any form was seen during the three months and a half that the child was in the ward. Only once was some brownish fluid, like altered blood, brought up from the stomach during his residence in the ward; even this was open to the suspicion of its depending on the use of raw meat juice, which had been ordered; but the last use of it was twelve hours before the vomiting occurred and so the probability was that some little oozing of blood from the stomach had occurred.

There seemed to be no pain anywhere and no tenderness in the abdomen. The abdomen was slightly distended, but this might be expected in a rachitic subject. No tumor could be felt, but, after a time, on careful search, the spleen, as supposed, was felt high up under the left ribs in the lax abdomen; the enlargement, if any, was put down to rickets, if, indeed, feeling the spleen so high up implied any enlargement at all; in fact, we did not think the spleen felt larger than normal. In view of the discovery of the sarcoma in the stomach after death, the doubt arose in my mind as to whether it might not have been this tumor instead of the spleen which was felt. Apparently such a mistake was made in a case reported by Greenhow and Cayley, where a firm, slightly movable tumor was found in the left hypochondrium and was supposed to be the spleen when the event made it almost certain that it was the sarcomatous tumor in the stomach which had been felt. At the post mortem examination of my patient, at which I was unfortunately absent, those present, including the house physician, who had detected the spleen during life, thought that the position of the sarcoma was not such as to agree with the position of the spleen as felt and described.

The aspect of the child was, throughout, that of extreme apathy; he lay listlessly nearly all day, often curled up, with the head bent forward. During periods of slight improvement, which occurred several times, he would brighten up for a few hours so as to amuse himself with toys, but this was of short duration. Even when dullest, however, he could speak and tell his name.

The problem was how to account for the profound anemia and the extreme feebleness of the child. An examination of the blood soon after admission showed no excess of the white blood corpuscles; the enumeration gave 3,200,000 corpuscles per c.mm., no poikilocytosis. After five weeks' residence the number was noted as 2,560,000, with hemoglobin at 20 per cent. In another month the number had come down to 1,812,500, with hemaglobin at 15 per cent. By this time there was a slight increase in the proportion of the white corpuscles to the red, but only such an increase as occurs in many disorders. In other three weeks the numbers were noted as 1,593,000, and the white were estimated as 1 to 177 red corpuscles. No alteration in the shape of the corpuscles was found. It was clear that the case was not one of leukemia, and the condition of the spleen did not suggest this. A few small glands were felt in the neck and one or two in the axilla, but they were too trivial to warrant much importance being attached to their presence. Failing to find any apparent explanation for the anemia and for the obviously grave illness, the idea of a pernicious anemia was suggested to my mind as the only probable explanation. With the gradual diminution of the corpuscles there was progressive pallor, with a sallow tinge, almost of a lemon color, a feature which seemed to favor this view; but the deterioration of the blood, especially at the first examinations seemed comparatively slight, and, even at the last, it scarcely reached the low figures we expect in this disease. Nor had I ever seen cases of pernicious anemia in children, although some have been reported as such.

The existence of a slight but pretty continuous pyrexia in the absence of any explanation on physical examination, seemed so far to favor the idea of a pernicious anemia. The temperature ranged from 100° to 101.5° or 102° F., occasionally reaching 103°. At the very end the temperature continued at 104° for a few days, when some pulmonary disorder ended the case. An examination of the fundus of the eye, made twice by Dr. Thos. Reid, showed no hemorrhages, and, indeed, nothing special beyond a little passive congestion of the veins.

A physical examination of the thoracic organs failed to reveal anything abnormal at first; latterly a little wheezing râle was heard at times and a systolic murmur at the apex became audible. No albumin appeared in the urine during his residence; some pink urates were noted on admission. Toward the end of the case a little puffiness of the feet and hands and even of the face was noticed. The weight of the child was 25 pounds on admission, and a few days before death was noted at 22 pounds.

In view of the existence of a tumor in the stomach, the following particulars as to the digestive functions are added. There was very little appetite, the child seemed to prefer milk to anything else, but it was so apathetic as to seem rather indifferent to food. Vomiting was a prominent symptom, and at first was thought to explain the failure of our efforts to improve the blood and the nutrition. At first the vomiting was only occasional, but in the second half of September vomiting was noted on five days; in October vomiting occurred on five or six days, sometimes more than once a day; in November vomiting occurred on nineteen days, and often more than once in the day. The vomiting could not be traced as having any special relationship to feeding or to any definite cause, and the vomited matter was not suggestive of anything special except on the one occasion already referred to, when brownish fluid was noticed. The state of the bowels was usually troublesome as regards diarrhea, calling for treatment; several times, however, constipation alternated with this.

In view of the nature of the case, details of treatment are omitted. The child died exhausted on December 6th with a terminal pyrexia associated with pulmonary congestion. The child was under the care of my colleague, Dr. Middleton, for two or three weeks at the end, but he suggested that I should report the case as it was so long under my charge.

Necropsy.—The post mortem examination was made by Dr. A. R. Ferguson, pathologist to the Western Infirmary, who made the following repprt: "The stomach presented a firm, bulky tumor, set in the posterior wall, closely impinging on the greater curvature, and rather nearer the cardiac than the pyloric orifice. It had an almost equal projection externally and internally. It measured on the mucus side 2.5 x 2.5 cm., the submucous infiltration being about 3 cm. in length. On the serous side it measured 4 x 4.5 cm. The projection was 1.8 cm. The tail of the pancreas was somewhat closely related to the tumor posteriorly, but dissection showed it to be completely separated by a thin veil of connective tissue. On the mucous aspect of the stomach, and immediately distal to the main rounded projecting mass of the tumor, there was a small circular area with a depressed centre and obviously infiltrated edges. The central portion of this area was the only part conveying the impression of ulceration, and even there the appearances were not conclusive. Many of the glands in the mesentery were slightly enlarged, but on microscopic examination they gave no evidence of being involved by tumor tissue. Examined microscopically the tumor was found to be a highly cellular one throughout. The degree of cellularity was increased in that portion immediately underneath the mucous coat of the stomach. The predominant cell-type, of which the tumor was composed, occurred in the form of prominent spindle-shaped elements."

KNIFE BLADE IN THE MALAR BONE.

Ap. Morgan Vance, Louisville, Ky., reports this case as follows: Three or four months ago Dr. T. H. Baker referred a boy to me who gave the history that in a boy's fight he had had a small blade of a knife broken off in his left malar bone. It had gone just inside the orbital cavity. There was a small transverse scar. Introducing the tip of my little finger over the bony ridge I could feel the foreign body, which was evidently pressing upward against the eyeball. I told the boy if he would come back the following day I would try and get it out.

I introduced four or five drops of a 6 per cent. solution of cocaine and made an incision just on a line with the old scar and came at once down upon the foreign body. I could grasp it with forceps but the instrument slipped off each time. The boy was positive in his statement that it was a piece of the small blade of a pocket-knife and described to me the knife from which the piece was supposed to have been broken, showing that not more than ⅛ to ½ inch had entered the malar bone. After working for quite a long time I finally extracted a piece of knife-blade about ¾ inch in length and fully ½ inch in width that had gone down into the malar bone.

This boy had had no inconvenience from the presence of the foreign body, and the only way he could tell it was there was to feel it with his finger. The blade had entered just beneath the lower convexity of the eyeball. The incision healed quickly and the boy had no further trouble from it.

The blade removed was rusty and looked as though it had been buried in the ground; still there never was any reaction or swelling from its presence. It was about a year after the accident that the foreign body was removed.

GASTROINTESTINAL INFECTIONS IN INFANTS.

I. A. Abt, M.D. (*Medicine*, 1900, p. 94) in an article on this subject concludes:

1. The acute gastrointestinal disorders of children cannot be attributed to a specific form of bacterium.
2. Toxic symptoms of gastrointestinal infection depend upon the introduction into the alimentary canal of poisonous substances which are contained in the food. For example, Vaughan isolated a toxic substance, tyrotoxicon, from milk, which was poisonous for man and animals.
3. Bacteria may be introduced from without; or the ordinary saprophytic bacteria which inhabit the intestinal canal may take on a special virulence.
4. The most severe disturbances are caused by the metabolism of bacteria; these micro-organisms by their activity either produce acids or cause decomposition of albuminoid substances; the products act as powerful irritants to the intestines, and by injuring the intestinal wall gain access to the blood and lymphatics, in this way producing the local and constitutional symptoms.
5. There can be no do doubt that specific intestinal infection may occur in infants. Typhoid fever, though not frequent in very young children, may also occur.

ERRATA

(1) On page 279, first line, third paragraph, omit "is."

(2) On page 280, third paragraph read thus:

The increased amount of carbon dioxide, or rather diminished amount of oxygen in the blood, and its vitiated condition in general because of the interference in the blood and lymphatic circulation at the base of the brain (the result of the naso-pharyngeal obstruction) explains the occurrence of the attacks in those suffering from adenoids.

AMERICAN MEDICAL ASSOCIATION.

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Next Annual Meeting at Atlantic City, N.J.. June 5–8, 1900.

I—SESSION DEVOTED TO THE CONSIDERATION OF SCHOOL CHILDREN:—

1—E. Stuver, Fort Collins, Col.
"Symmetrical Development, or Does Our Present School System Develop the Highest Powers of the Child?"

2—J. Henry Bartlett, Superintendent of the Friend's Select School, Philadelphia, Pa.
"School Break Downs."

3—Thomas H. Fenton, Philadelphia, Pa.
"Eye Strain."

4—Louis J. Lautenbach, Philadelphia, Pa.
"The Care of the Ear in School Children.

5—Dr. Grace E. Spiegle, Philadelphia, Pa.
"The Physician's Responsibility in the Physical Education of School Children." Summary:—Medical Inspectors of School Children, Its Purpose, Its Results. Health Supervision of School Children. Attitude of Family Physician toward the School Authorities, Teachers, Parents and Child.

Discussion of the above by Drs. F. X. Darcum, C. F. Wahrer, etc.

A. D. Rosenthal, D.D.S., New York.
"The Neglect of Teeth in Childhood."

II—SESSION DEVOTED TO THE CONSIDERATION OF CONTAGIOUS DISEASES:—

6—C. F. Wahrer, Fort Madison, Iowa.
"Shall Children be Kept from Measles and the Exanthemata Usually Incident to Childhood?"

7—Henry Koplik, M.D., New York, N.Y.
"Roetheln, a Distinct Affection apart from Measles and Scarlatina and Its Differentiation from These Exanthemata."

8—Jay F. Schamberg, Philadelphia, Pa.
"A Clinical and Pathological Study of the Rash of Scarlet Fever, wlth Especial Reference to the Origin and Character of the Desquamation."

9—John Lovett Morse, Boston, Mass.
"Foetal and Infantile Typhoid."

10—Joseph Trumpp, of Munich.
"Decubitus Following Intubation."

Discussion opened by Drs. Wm. H. Welch, Philadelphia, Pa.; W. C. Hollopeter, Philadelphia, Pa.; S. Solis Cohen, Philadelphia, Pa.; Louis Fischer, New York, N.Y., besides others who may also present papers.

Dr. A. S. Daniel, New York, N.Y.
"Differential Diagnosis between the Eruptions of Influenza and the other Infectious Diseases of Children."

Joseph H. Byrne, New York, N.Y.
"Causative, Relative Frequency, etc., etc., of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood."

III—SESSION DEVOTED TO THE CONSIDERATION OF THE FEEBLE-MINDED, AND OF NERVOUS DISEASES:—

11—Martin W. Barr, Pa. Training School for Feeble-Minded, Elwyn, Delaware Co., Pa.
"The Etiology of Idiocy and Imbecility."

12—S. J. Fort, Ellicott City, Md.
"The Physiological Method of Training the Feeble-Minded."

13—A. W. Wilmarth, Wisconsin Home for the Feeble-Minded, Chippewa Falls, Wis.
"The Care of the Higher Grades of the Feeble-Minded."

14—J. Madison Taylor, Philadelphia, Pa.
"Diseases of the Feeble-Minded."

Louis Faugéres Bishop, New York, N.Y.
"Discussion in Diseases of the Nervous System."

15—Wm. M. Leszynsky, New York, N.Y.
"Common Forms of Paralysis in Children."

16—J. Clements, Kansas City, Mo.
"Chorea."

Discussion by Dr. Dercum, etc.

IV—SESSION DEVOTED TO DISEASES OF THE BLOOD AND CIRCULATION:—

17—Henry E. Tuley, Louisville, Ky.
"Purpura Hæmorrhagica or Scorbutus, a Clinical Sketch."

18—Samuel E. Woody, Louisville, Ky.
"Rheumatism."

19—John A. Robinson. Chicago, Ill.
"The Essential Points in the Treatment of Adolescent and Senile Heart."

20—Henry Illoway, N.Y.
"Abortive Treatment of Pneumonia."

Discussions opened by Alfred Stengel, Philadelphia, Pa.; S. Solis Cohen, Philadelphia, Pa.; Edwin E. Graham, Philadelphia, Pa.

V—SESSION DEVOTED TO INFANT FEEDING AND DISEASES OF THE INTESTINAL TRACT:—

21—Prof. Adolf Baginsky, Director of the Kaiser and Kaiserin Friedrich Hospital, Berlin, Germany.
"The Milk Supply, Etc."

The Milk Discussion will be opened by Henry D. Chapin, New York; Victor C. Vaughan, Ann Arbor, Mich.

22—Edward H. Small, Pittsburg, Pa.
"Gastro-Intestinal Hemorrhage in the New Born."

23—S. Weiss, Vienna.
"Statistics on Intususception in Children."

Discussion of above by Dr. Frederick Packard.

SURGICAL SUBJECTS:—

27—Dr. Isaac Abt, Chicago, Ills.
"Movable Kidney (Floating Kidney) in Children."

28—Thomas H. Manley, New York, N.Y.
"Symptomatology of Appendicular Inflammation in Children."

29—John S. Miller.
"Normal Salt Transfusion in the New Born, for Hæmorrhage from the Cord."

30—Edward A. Tracy, South Boston, Mass.
"Some Joint Diseases in Children.—Their Diagnosis and Treatment."

31—Louis Fischer, New York, N.Y.
"Athrepsia Infantum."—Diagnosis and Treatment.

PEDIATRICS

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VOL. IX. APRIL 15th, 1900. No. 8

ORIGINAL ARTICLES

ON NEPHRITIS IN CHILDHOOD, ESPECIALLY THAT OCCURRING IN THE COURSE OF MALARIA.

By DR. MONCORVO,

Corresponding Member of the Academy of Medicine, Paris; Clinical Professor of Children's Diseases in the Polyclinic, Rio de Janeiro.

THE progress made by bacteriology has thrown light upon a great many problems which clinical experience was far from solving satisfactorily.

Amongst these problems belong those relating to the nature of nephritis in childhood.

The literature concerning this morbid entity in the young, was, up to a very recent date, meagre enough.

Going back as far as 1792, we find that Willan has described, under the name of ischuria, an affection which he observed in children of all ages. In 1805, Baumés reported observations on two new-born infants, aged two and eight days respectively, that had eliminated several calculi after convulsions, the convulsions ending in death.

In 1815 Oehler found a calculous nephritis in the post-mortem examination of an infant.

Later, in 1824, Fischer called attention to nephritis among the possible complications cf scarlet fever in children. It was not until 1827, after the remarkable researches of Richard Bright that the knowledge of renal disease underwent a veritable revolution. Then followed the studies of Billard on pathological anatomy of infantile disease, among them that of the urinary apparatus. He declared inflammation to be more rare among the newly-born than in other periods of childhood.

Investigations regarding the pathological anatomy of renal lesions in children were again made by Louis in 1828.

Gregory, in 1831, was the first to call attention to renal inflammation following typhoid fever in children.

To Royer, we are indebted particularly for very careful microscopic examinations of diseased kidneys in infants ; his investigations covered thirty cases of acute nephritis in the newly-born.

The attention of clinicians was soon drawn to albuminuria with edema and anasarca following scarlet fever. Alison asserted that these manifestations were due to a renal lesion.

Venát described an affection analogous to typhoid fever, which he called *fiévre mësaraiqüe*, observed in children whose urine contained albumin.

The observers who have written later than 1850 differ with regard to the period in childhood when nephritis occurs most frequently. Bouchut, who has seen a great number of cases of this kind in the course of scarlet fever, declares that this inflammation was met with most frequently during the second period of childhood.

Rilliet and Barthez, on the other hand, have found that acute nephritis rarely occurred in children under five years.

After a long series of observations on 265 children affected with renal inflammation (diagnosis of several confirmed by autopsy) Stiner and Nereutter, of Prague, affirm the great frequency of this affection in the young, notably between two and eight years although it might appear at an earlier period; the youngest of their litte patients was not more than three months old. In 1857, other clinicians, among them Wade and G. Sée described nephritis among the sequelæ of diphtheria.

Bouchard demonstrated in 1858 how common it was to find nephritis, following scarlet fever, measles, typhoid fever and diphtheria. More recently, Dickinson, according to whom the different forms of nephritis are unknown during the first year and rare during the second, recognizes that they are very common during later childhood. According to him, they are, in the majority of cases, a combination of scarlet fever, which occurs so frequently during the tenth year.

It was not until 1871 that the serious natnre of this inflammation was understood. Oertel, even then, claimed to have found the connection between scarlatinal nephritis and the presence of a micro-organism in the renal tissue.

Since the investigations of Bouchard, Labadie-Lagrave, Tuvache, Zégre, Caussade, Widerhofer and others, we have at the present time, agreed not to consider nephritis always as an independent disease. In fact, the continual progress in bacteriology, has shown that the inflammatory process in the kidneys is very often a secondary infection occurring in the course of a general infectious disease, or is due to the toxines elaborated by the micro-organisms producing the general infection. It cannot, however, be denied that the chapter on the pathogenesis of nephritis in the young is even at the present moment very obscure ; it certainly constitutes one of the most difficult problems of pediatrics. The nephritis observed in the course of scarlet fever has more particularly attracted the attention of clinicians.

In 1887 Widerhofer found among 1352 autopsies performed at the Hospital of St. Anne in Vienna, 46 cases of nephritis ; of these 31 followed scarlet fever, 3 variola, 4 tuberculosis, and 1 syphilis. The scarlatinal nephritis occurred here, in a proportion of 67 per cent., indicating great frequency and a very great mortality.

Cadet de Gassicourt found it 30 times in 100 cases of scarlet fever. S. Thomson collected 55 cases among 112 children affected with scarlet fever.

The great majority of European observers agree with D'Espine and Picot that in cold and temperate climates, scarlet fever is the disease most often complicated by acute nephritis. According to Bouchard, Babes and Gaucher, this disease is of an infectious nature, and is due to the presence of streptococci alone, or associated with a diplococcus (M. Pakin). For my part, I can add that this kind of nephritis very seldom appears in our pathological reports, scarlet fever occurring here but rarely.

In the opinion of Gubler, Lecorché, and many other observers, e.g. Bartels, variola is rarely complicated with nephritis. My personal observations only go to confirm this. Henoch, in 1884, was the first to describe infectious nephritis in connection with cases of varicella. Sondeikine, Hogyes, Hoffman, Oppenheim and Unger have recorded analogous facts. Pirro Bolognini found it in 12 out of 15 cases of varicella. Still more recently Comby reported the autopsy on a child that succumbed during the course of varicella, in which he found renal lesions analogous to those of scarlatinal nephritis.

Lewis Mann Silver has also seen an infant affected with varicella succumb to a grave concomitant nephritis. It is not less rare to find inflammation of the kidneys among the complications following in the course of measles, and although this exanthem has less frequently come under my observation, I have collected a few cases.

After the researches of Fissenger regarding renal complications of la grippe, Juvache, Ruelle and Lesné have made similar investigations in children. In my opinion, as well as in that of many other clinicians, this form of nephritis may at times become quite grave. Taidturier, in his inaugural thesis, has called the attention of physicians to the coexistence of renal disease with adenoid vegetations. The researches of Bouchard, Hutinel and Deschamps have shown a causal relation between pharyngitls and infectious nephritis. I have also been able to show my pupils cases of this nature.

Described first by Gregory in 1831, and by Prof. Royer in 1840, nephritis associated with typhoid fever, is finally classified among the infectious complications of the latter, in accordance with the researches of Bouchard, who considered it of even more frequent occurrence in the young than in adults; the latter fact is confirmed by the observations of Ekkert. This concomitant renal inflammation is usually of short duration, and generally admits of a favorable prognosis. It is evident, however, that its frequency is very variable. Thus, Fritz has collected 30 cases of typhoid fever in children, without any renal complications. Forty-two years ago, Wade and Germain Sée pointed out acute nephritis among the complications of diphtheria. Moizard Sanné and Cadet de Gassicourt have seen it accompanied by anasarca, while other clinicians have not found this to be the case. According to a certain number of writers, these cases are mild. The small number of cases of diphtheria that have come under my observation do not permit me to form a personal opinion.

Some clinicians have found, with Abelin, Cauisade, Mommsen, Alexander, Kees, and Comby, pneumonia and broncho-pneumonia in children, complicated by a nephritic process, which is at times grave. I can record more than one similar case, occurring in the course of grave broncho-pneumonia. On the other hand, I find on my records no clear case of nephritis associated with acute articular rheumatism. Monod of Paris, and Kissel of Moscow, have each observed a case terminating fatally.

Mumps, the microbic nature of which has been recognized since the investigationf of A. Ollivier, is at times complicated by small inflammation, as the facts recorded by Pratolongo and Henoch go to prove. Personally I have observed one case, mild in character, and of short duration, which seems to be the rule.

Bardley was the first to recognize a case of [sub-acute nephritis, co-existing with congenital syphilis, and Fürbringer reports having found the same 12 times in 100 new-born children with hereditary syphilis. I have records of half a dozen analogous cases. I must also recall the acute renal inflammations, accompanying tuberculosis, although they do not appear to be very frequent, judging from the number of facts published (Hallé-Moncorvo). The studies of Lecorché and Talamon have made clear the fact that auto-infection of intestinal origin may lead to a nephritic process, which is easily curable. My own observations have shown that this can occur in children who are habitually constipated, especially in those with chronic dilatation of the stomach. Sejourmet has published a case identical with mine of a little girl of fifteen months, prematurely weaned, also presenting a dilatation of the stomach.

I might enumerate nephritic complications occurring in the course of relapsing fever, in cerebro-spinal meningitis, and less often in typhus. Baginsky, Wissenberg and Henoch have declared them very rare in the first named; as to the last two diseases, all authors agree in affirming the rarity of an acute complicating nephritis. To this I can add nothing, cerebro-spinal meningitis being very rare, and typhus absolutely unknown in my country.

Finally it must not be forgotten that erysipelas and lymphangitis may exceptionally be complicated by acute nephritis.

My principal object in this communication is to call attention to nephritis complicating acute malaria in childhood.

True, many authors such as Kiener and Kelsch, Soldatow, Botkin, Bartels and Laveran have already had occasion to note cases of nephritis complicating paludal infection, but it is certain that up to the present, this complication has very vaguely attracted the attention of pediatric students. In the chapter on nephritis, in the treatise of Barthez and Sanné, there is scarcely any mention of intermittent fever as a cause of renal inflammation. We are indebted to Henoch for more definite information. He hastens to add, however, that nephritis follows very rarely in the course of intermittent fevers. In his *Lecons cliniques sur les maladies des enfants*.(*trd. fr. Paris, 1885*), he mentions three cases of this kind. The first refers to a little girl of six years, who had had two attacks of quotidian malarial fever, yielding to quinine. Eight days later, her urine, which was scanty and dark brown, was found to contain albumin in abundance, hyalin casts and blood cells, but under the continued administration of quinine it became normal in a week. A second case, with an entirely similar course, has been described by the same author. A third case has been described by C. Küster (*Berl. Klin. Wochenschr., 1880*), who observed it with the author. "Little girl of four years, late in November, 1879, measles followed by double otitis with perforation of drum ; in middle of December quotidian malarial fever with temperature reaching 41° C., yielding in a measure to quinine (0.30—0.40 gms. every morning), but lasting until the end of December. On December 27th urine scanty, of a reddish-green color, containing albumin, blood and casts. After a few days' apparent improvement ; from Dec. 30th, '79, to Jan. 1st, '80, renewed hyperpyrexia, with marked hematuria. I saw the child then for the first time. Quinine in,large doses caused the fever to subside rapidly. The urine soon cleared up, and from January 3rd, was free from albumin and blood. Recovery complete."

In my *Lecons sur la Malaria Infantile* (*Paris, 1895*), I called attention to acute nephritis among the complications occurring in the course of paludal fever, adding that the latter in relation to nephritis played the same rôle as scarlet fever in the cold and temperate climates. This explains why in 35 cases of acute nephritis in young subjects, recently collected in my service, 26 coexisted with malaria. I shall relate briefly some examples.

Case I.—Marie ———, three years, admitted Dec. 11, 1896. Father syphilitic. Mother rheumatic, tuberculous and subject to lymphangitis. Four children, of which the first succumbed to small-pox. Patient nursed by mother until fifth month,—afterwards improper food. External manifestations of congenital syphilis. No febrile exanthem. Dentition at one year, progressing slowly. Left cervical adenitis with suppuration. Fifteen days before admission fever of remittent type ; six days after the commencement of the fever there appeared edema of the eyelids, soon invading the whole face. The extremities and particularly the legs swelled markedly. Disordered state of stomach, and tympanitic abdomen prevented satisfactory examination of liver and spleen. Diarrhea. Marked oliguria. Disturbed sleep. Examination of urine revealed albumin. Treatment consisted in the administration of calomel followed by quinine and milk diet. The urinary secretion increased very slowly, as the edema improved and the characteristic manifestations of the malarial fever became less pronounced. Two weeks later complete apyrexia and also complete absence of edema and albuminuria. *Case II.*—Justino ———, aged two years, brought July 18th, 1898. Dwelling unhealthy. Poorly nourished, pale, weak, For a long time victim of a malarial infection, which had very much retarded his development. A few days previous to admission, attacked by a fever of remittent type, with prostration, marked anorexia, insomnia and scanty urine, edema of face and eyelids. Disordered stomach with diarrheal stools and enlargement of liver and spleen. Albuminuria, peptonuria. Irregular action of heart. He recovered completely on caffeine, quinine and milk diet. On July 27th, diuresis markedly increased, and albumin diminished. During the first days of August gradual return to a normal condition, *Case III.*—On Dec. 1st, 1896, a little girl of 18 months was brought into my service, who had since birth lived in a very unhealthy suburban district, and for several months had been subject to attacks of fever, with pallor, indigestion and loss of flesh. For the last few weeks edema of face and eyelids, more marked in the morning. A little later both legs became swollen. Disordered stomach, abdomen distended, fetid diarrhea and hepatic and splenic enlargement were noticed. Oliguria was marked. The small quantity of urine passed only allowed of a single examination, which showed the presence of albumin and a few hyaline casts. With vapor baths, milk diet, quinine and tannigen these symptoms yielded promptly, and ten days later the edema had disappeared and the quantity of urine had greatly increased, the examination of the latter showing no trace of albumin, At this stage the child was withdrawn from my service. *Case IV.*—J———, two years, admitted Feb. 3, 1898. House unhealthy. Father showed stigmata of hereditary syphilis. Remittent fever dating back one and one-half months. Emaciation, pallor, dry skin. Edema of face and eyelids, also of lower extremities, especially the ankles. Abdomen distended, signs of gastrectasia, hepatic and splenic enlargement, constipation. Vapor baths, calomel, quinine and milk diet. Feb. 16th, scarcely any edema, albumin in urine markedly diminished. In spite of the measures taken to counteract the malarial infecfion, the child succumbed four days later to a pernicious attack. *Case V.*—On March 20th, 1897, a little girl of two years was brought to me, who had been living in a very unhealtny and malarial district. She had for a long time been subject to diarrhea, with attacks of fever. Lately the diarrhea had taken on the form of dysentery followed by prolapse of the rectum. She was feeble, emaciated, without appetite. A few days before admission appearance of edema of face, eyelids and ankles. Tongue dry, covered with sordes. Tumefaction of liver and spleen. Oliguria marked. Albuminuria with a few epithelial cells and hyaline casts in the urinary sediment. Under the influence of treatment consisting of caffeine, quinine, tannigen, intestinal irrigations and vapor baths, these symptoms improved rapidly, the febrile attacks growing less severe, the diuresis increasing as the edema disappeared. This treatment was followed until April 23d, the child not remaining longer under observation. *Case VI.*—Marie, five years, admitted Nov. 13, 1897. Unhealthy dwelling. Measles at the age of one year. For one week suffered from fever of a remittent type with exacerbations. Pallor, weakness. Typhoid state. Liver and spleen enlarged, constipation, oliguria. No noticeable edema. Urine contained albumin. Microscopic examination of the sediment showed only a few epithelial cells. *Bruit du diable* in vessels of neck, a systolic murmur in the second left intercostal space and at the apex. Irregular heart action ;—pulse small and irregular. Calomel, quinine and milk diet were used with success, for at the end of one week the fever had ceased, and the albumin had disappeared from the urine. *Case VII.*—Joaquin, two years, admitted Oct. 30, 1897. Had had several attacks of fever, accompanien by diarrhea. Renewed attack of fever just before admission. Tongue coated ; stomach dilated ; loss of appetite, bile-colored stools, hepatic and splenic congestion. Some bronchial räles. Dry skin. Cold extremities. Both legs swollen, this having been preceded a few days by edema of the face and eyelids. Urinary secretion diminished to such a degree that at first no examination could be made; a later analysis revealed albumin and some casts. Vapor baths, milk diet, calomel and quinine led to a satisfactory recovery. The fever disappeared in a few days as well as the dropsy, and the urine became normal at the end of two weeks. *Case VIII.*—M ———, seven years. brought Jan. 14, 1898. Home in an unhealthy quarter. Father syphilitic. Mother consumptive. Child sickly since birth. Dentition and walking retarded. Manifestations of congenital syphilis. Small pox and measles at three years. Anasarca of three weeks' duration ; it begun in the face and eyelids, and extended to the lower extremities, and the various dependent portions of the body. Ascites only slight. Oliguria marked. Albumin in the urine, the sediment of which contained casts incrusted with epithelial cells. Dryness of skin, pallor, coated tongue, anorexia and diarrhea. Enlargement of liver and spleen. Heart action feeble and somewhat irregular. Physical signs of enlarged bronchial glands. Rectal temperature, 38° C. Brandy, caffeine and quinine were administered. June 22d. Apyretic. Anasarca diminished. Condition of heart improved—free diuresis. Jan. 30th. The edema as well as the ascites almost entirely disappeared, likewise the fever. Liver and spleen disappeared. The child was taken away before the complete disappearance of the above mentioned manifestations. *Case IX.*—A little girl of three years, seen for the first time Feb. 26th, 1898. Mother died of a fever. Lived in a very damp quarter. Quotidian fever, dating back some weeks. Lately edema beginning in the face and extending to the lower extremities. Loss of appetite, diarrhea, congestion of liver and spleen. Weak character of cardiac sounds ; *bruit de galop*. Oliguria, hemoglobinuria, albumin and casts. Calomel, quinine, milk diet. March 4th. Improvement. Edema diminished. Diuresis increased ; diminution of albumin and blood in the urine. March 7th. Temperature normal. Complete disappearance of edema. Milk diet and quinine continued. March 12th. Still apyretic. Tongue less coated. Liver and spleen diminished in size. Return of appetiie. Constipation. Diuresis free. Disappearance of albumin in the urine. March 16th. Liver and spleen again congested. Reappearance of some traces of albumin in urine. Tannalbin, milk diet, arsenic. March 21st. Temp. 37.4°C. Tongue slightly coated. Spleen reduced in size. *Bruit de galop* less marked. No trace of albumin. April 2nd. Temperature normal. Liver still slightly engorged. Stools normal. No albumin. Calomel, benzonapthol, milk diet. April 16th. Temperature 37.8°C. Fetid diarrhea. Urine normal. Quinine. April 18th. Temperature 36.8°C. Cessation of diarrhea. Diuresis normal. *Case X.*—Bernardino, three years, admitted March 14th, 1898. Lived in an unhealthy locality. Weak, rachitic, pale. Anorexia and signs of dilated stomach. Diarrhea. Enlargement of liver and spleen. Fever of an irregular, remittent type. A few days previously appearance of edema of face and eyelids, extending soon to the lower extremities, pubic and sacro-lumbar regions. Diuresis much diminished. Urine albuminous, epithelial cells and a few hyaline casts in sediment. Prostration. Insomnia. Calomel, quinine, milk diet. At the end of one week the fever had disappeared, as well as the edema, diuresis being more abundant and the urine again normal. May 9th. Reappearance of malarial symptoms, which yielded to quinine, to return again on the 29th; but the edema was not then noticed, neither did the the urinary analysis disclose albumin. The renewal of the quinine treatment again did its work. On the 6th of July, the edema reappeared in the eyelids and forehead, at the same time that the diuresis was diminished, and the urine showed some traces of albumin. These manifestations soon subsided again under the administration of calomel followed by quinine. A milk diet was persisted in for some time with success, there being no further symptoms of renal trouble. *Case XI.*—Antoine, three years, seen for the first time, June 6th, 1898. The last of four children. Had varicella at 14 months. Fifteen days before admission the child had a violent chill, after playing entirely naked on the damp ground. Coryza and fever, followed in a few days by a marked edema of the face, most pronounced in the eyelids, and involving successively the lower extremities, the pubic, gluteal and hypogastric regions. Temperature 38° C. Heart action feeble ; *bruit de galop*. Distension of the abdomen, preventing satisfactory percussion of liver and spleen. Diarrhea. Oliguria from the beginning. Albumin, with epithelial cells. Vapor baths, milk diet, caffeine and quinine preceded by calomel. June 8th. Apyrexia. Urine more abundant. Diminution of edema. Abdomen less tense, circumference reduced by 15 cm. Decrease in amount of albumin. June 10th. Temperature 37.9° C. Edema markedly diminished- Examination of abdomen now reveals hepatic and splenic enlargement. Thirst has disappeared. Tongue is less coated. Jnne 13th. Temperature 38°.5 C. No further trace of the edema. Three or four diarrheal stools with tenesmus and prolapse of rectum. Thirst. Quantity of urine increased, but traces of albumin again evident. Action of heart gradually becoming more vigorous, while the *bruit de galop* is clearly disappearing. June 14th. Temperature, 37.7° C. Gradual cessation of diarrhea. June 16th. Temperature 37.2° C. Strength markedly increased. Disappearance of albumin and casts.

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In order to avoid the repetition of a number of similar cases, I shall confine myself to those already related, in which we have seen acute nephritis coincident with or following upon malarial poisoning. I may add that the diagnosis of malaria has been confirmed in some of my little patients by the examination of the blood.

The numerous examples of this nature which I possess go to prove that in the field of my observations malaria plays the same part in respect of acute nephritis in the young as does scarlet fever in the cold and temperate climates. I even feel authorized to state that the cases in question often pass unnoted among us, probably on account of their usual benignity.

As regards its clinical character, this nephritis does not markedly differ from that accompanying other infectious diseases. It is, however, of a shorter duration, and nearly always terminates favorably. The edema also, contrary t what is usually observed elsewhere, sometimes involves nearly the whole body, constituting a true anasarca. The secretion of urine is more than usually diminished, reaching occasionally the point of uremia, which does not generally last more than twenty-four hours. Albuminuria is almost constant ; in certain cases, however, it disappears for short intervals. The proportion of albumin varies greatly, according to the case and the time of examination. The amount is not always in proportion to the intensity and duration of the nephritis. The presence of hyalin casts, incrusted or not with epithelial cells, has in almost all the cases made sure the nature and seat of the complication in question.

The most difficult question to solve in these cases is that regarding the interpretation of the inflammatory process in the kidneys.

Does it arise from a secondary infection of the kidneys following on the malarial intoxication ? Or, on the contrary, must one admit that this accompanying inflammation is due to the presence in the renal vessels of the hematozoon of Laveran ? Would it be more reasonable to attribute it to the direct action of the toxine elaborated by these micro-organisms ? These are the problems which still await a satisfactory solution. We are in possession of no writings nor researches which give light and information on this subject. Lastly, efforts have been made, as we know, to attribute to the influence of toxines a nephritis occurring in the course of a local infectious malady, as for instance a tonsillitis, the toxines being elaborated by the micro-organisms producing the original disease. With regard to malarial nephritis, I side with my eminent colleague, M. Hutinel, who, in reference to this, expresses himself as follows, in a manuscript communication, which he has had the goodness to send me: " We are not yet well acquainted with the toxine secreted by the protozoon of Laveran. This protozoon is quite different from other microbes, and it might perhaps be imprudent to speak of its toxine in the same way as we speak of that of the diphtheria bacillus or the bacillus of Eberth. It is possible that the action of the micro-organism of Laveran on the kidneys is purely and simply a local one, which may be ascribed either to the presence of the protozoon in the vessels of the glomeruli, or to its contact with the cellular elements. It is possible, also, that this action is exerted through the medium of the blood, the alterations in which are undoubted." This is only a hypothesis, but there is no reason why we should not suppose that in some cases, at least, these factors have a cumulative action, which might, perhaps, explain the greater intensity of the inflammatory process.

In conclusion, I only wish at present to call the attention of clinicians to the complications of malaria so common in the young, hoping that so important a subject will in the future call forth new researches to complete the study.

THE CARE OF PREMATURE AND FEEBLE INFANTS.

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IN France premature births range from 15 to 30 per cent. of all births, according to place and local conditions. Besides this about 5 per cent. more are so feeble at birth as to survive but a few days. According to the law of Malthus, "when the increase of population is not arrested by any obstacle it doubles every twenty-five years in a geometrical proportion," this gives an annual increase of 4 per cent.

Supposing the premature births and those born at full term so feeble as to live but a few days to be only 15 per cent., which is a very conservative estimate, and apply the law of Malthus to the United States, with a population of 70,000,000. This would give us annual births of 2,800,000; 15 per cent. of this gives 420,000 premature and feeble infants born in these United States annually, the most of whom are quietly laid away with but little if any effort being made for their rescue. It is only in the home of the childless or where offspring are greatly desired that any considerable efforts are made to save them.

It is maintained by some that it is inconsistent with the best physical development of the men and women of our nation to rear these little creatures, it being assumed that they will have impaired physical vigor and transmit this to their offspring. I believe this assumption is entirely groundless, and unless these infants inherit syphilis, tuberculosis or other constitutional disease their expectation of life after the second or third year is as good as that of those born at full term. Lyman Beecher was a seven-months child, so small and feeble that the nurse expressed regret at seeing him breathe and show signs of life. Yet Lyman Beecher lived to a good old age and gave to the world two children whose names will be immortal. It is evident that anything that can be done to lessen the death rate in this army of little mortals is in direct accord with the highest aims and purposes of our profession.

There are two causes that operate to produce the heavy mortality in these cases:

1. The rapid radiation of heat which, unless counteracted, speedily reduces their temperature to two or three degrees below normal.

2. Their lack of ability to digest and assimilate nourishment to keep up vital functions.

Weight at birth is an indication in regard to the viability of the child.

From a tabulated record of 182 premature births at Nice, France, we find that all under 2¼ pounds died on the day of birth; all over 5½ pounds lived. This table showed conclusively that every additional ounce increases their expectation of life.

The indications for their care are to maintain a uniform, equable temperature at or near normal, and to administer suitable nourishment at regular intervals and in proper amounts.

In some of our large metropolitan cities there are wards connected with maternity hospitals where there are incubators heated by steam, the temperature is regulated by a thermostat, the receiving air is filtered as it enters, and the amount is regulated by a fan in the chimney. The baby, in its little hammock, on a bed of down, can be watched through the glass case. A thermometer at its head registers any variation of temperature. Every two hours the infants are taken out to an adjoining ward where healthy wet-nurses are in attendance. The infants are fed, washed if soiled, and returned to the incubators.

But as only a small percentage of these unfortunates can have the benefit of such treatment, it is necessary to adopt methods applicable to the masses, and the method will vary with the season of the year and the environment of our little patient. If it comes to the home of the well-to-do, where the parents live in warm, comfortable houses, well heated, and are able to provide competent, intelligent nurses, variations of external temperature and inclemency of the weather are not serious difficulties to overcome. But in the homes of the poorer classes of society, the improvident, the impecunious, and the intemperate, inclemency of the weather is a prolific cause of mortality. Artificial heat can be obtained by hot water bags, hot bricks, etc., by direct radiation from stoves, furnaces, or steam radiators, or from these methods combined.

I have taken two children's bath-tubs of metal, one several sizes smaller than the other, padded the smaller with cotton batting and flannel, placed the child in this, and set it in the larger with 2 inches of water between them; under the whole I placed one or two kerosene lamps and maintained an equable heat of the desired temperature in the coldest of weather. In every case it is indispensably necessary to have a thermometer at the child's head to register variations of temperature.

Sudden changes and draughts of cold air are to be carefully avoided, especially when feeding and dressing. If the house is cold and open, I generally curtain off the warmest corner for the baby and its nurse. The food should be mother's milk, or that of a healthy wet-nurse. Almost always these infants are too feeble to nurse, and have to be fed, in which case mother's milk is drawn and fed to them. Some cases refuse or are unable to swallow, and resort must be had to the introduction of a soft catheter into the stomach, through which the milk can be poured.

In cases where mother's milk or that of a healthy wet-nurse cannot be obtained, modified cow's milk may be used. Those who have access to the milk laboratories of our large cities, can prescribe the required amount of the different elements, and know that their prescription will be filled accurately and scientifically.

But to us, who do not possess these advantages, a few general facts will enable us to prescribe with approximate accuracy. Different breeds of cows, and the same cows at different seasons of the year, and under different sanitary regulations, will vary considerably in the amount of fat, proteids and carbohydrates which their milk will contain. The same is also true of mother's milk. An analysis of woman's milk and cow's milk will show that the fats are about the same in each; that the sugar is two and seven-tenths per cent. greater in woman's, and identical in chemical and physiological properties; and that cow's milk contains four per cent. of proteids to one and one-half per cent. of woman's milk. Hence to modify cow's milk and to make it approximate mother's milk, we must maintain the fat at its normal percentage, increase the sugar and decrease the proteids. This can be done by taking cream with the required percentage of fat, reducing with sterilized water and adding milk sugar. We are very apt to think of cream, as entirely different from milk, but it differs only in a higher percentage of butter fat, and slightly less of proteids and sugar.

Cream obtained by the centrifugal method contains sixteen per cent. of butter fat, can be obtained from new milk without standing, and is very stable in its constituents; it would, therefore, be well to use it as a unit of measure. But when we cannot have access to cream made by this process, we can get approximate results by the gravity method. Set a four per cent. milk on ice, or in cold water for six hours, skim the top layer, and you will get a twelve per cent. cream; let this same milk stand twelve hours, and it will yield a sixteen per cent. cream. The reduction and combination of these with whole milk, sterilized water and milk sugar, will give almost any desired percentage of fat, proteids and carbohydrates.

To overcome the acidity of cow's milk and render the curd flocculent and more easily digested, one part of lime water may be added to every sixteen parts of the mixture.

December 7, 1896, I delivered Mrs. H. of twins at the seventh month of gestation. The sum of their weights was four pounds, one being an ounce or two heavier than the other. The parents' living rooms were over a butcher's shop, and were quite cold. The babies were washed about the face, wiped, oiled with warm olive oil, wrapped in cotton batting and flannel, placed in a sewing basket on a stand near a hard coal stove, and curtained off from the rest of the room, through which cold draughts were constantly passing. A thermometer was placed between them, and the temperature maintained at 99° to 100° Fahrenheit. They were fed with milk drawn from their mother every two hours. Once a day the cotton was removed, and fresh oil and cotton applied.

The first four days they moaned continuously and were fed with difficulty. After two weeks they were able to nurse, but were kept oiled and wrapped in cotton for two months, at which time they weighed about six pounds each. At the present time they are as active and vigorous as the average children of their age.

The object in using warm olive oil is to keep the skin soft and moist, and prevent the dermatitis that so frequently attacks premature and feeble infants; it also does away with the necessity of frequent bathing of the child, and thereby exposing it to the danger of becoming chilled. I would use the warm olive oil only during the coldest part of the season, and wrapping in cotton batting is preferable to putting on cloths in all these cases.

I am indebted to Dr. Rotch's tables and to Westcott's article in the January, 1898, number of the *Archives of Pediatrics* for some of the facts contained in this paper.

SOME REASONS WHY TUBERCULOSIS SPREADS MORE RAPIDLY AMONG CATTLE THAN IN THE HUMAN RACE.

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IT is unnecessary to dwell upon the care exercised by physicians, to prevent the contamination of their patients, and the many appliances, and disinfectants, used to attain the desired results.

Since it has been demonstrated time and again that the injection of milk from tuberculous animals causes tuberculosis in the human family, the handling of these animals has now become a point to be carefully considered by scientific men. Let us see, however, whether the same care is exercised in stables of dairy men, owning high grade milk cows, or whether the normal tendency of the animal to contract the disease is not really often increased by expensive stable hygiene.

The modern cow stable, especially those more expensively fitted out, is furnished with two series of poles three feet apart, reaching from floor to ceiling, and between each pair of poles is a yoke, which allows the cow's head free movement, but prevents her from leaving her station.

The animals face each other across a gangway, six feet wide, and raised about six inches in the centre.

This gangway allows the passage of the attendant, and its slight central elevation prevents the feed from accumulating in the middle. The sides of the six-foot passage way constitute the common food receptacle for the rows of cows.

Between first and second cows, and between third and fourth cows is a water pot, which is used in common by those animals, and so on down on each side of the gangway.

Cow o Cow Cow o Cow Cow o Cow
Alley way and feed box six feet wide elevated in middle.
Cow o Cow Cow o Cow Cow o Cow

"o" represents the water pot used in common by two animals.

From the accompanying diagram, it will be seen that cow No. 2 can thus contaminate its neighbor, by means of the common water pot. It can also carry contamination through the medium of the fodder trough, common to the two animals on either side of it, and also to the cow directly opposite across the gangway.

This makes three cows which can be readily infected by one, provided she always occupies the same station in the stable, but when a suitable opportunity arises for the animals to be taken out to pasture, they do not habitually return to the same yoke as would a horse.

Thus it becomes possible for a tuberculous animal to contaminate a new lot of three cows, each time she comes from pastures. This does not take into account the other possible occasions for the spread of the disease while mingling in the pasture.

It has been discovered that a single cow in a tuberculous condition, placed in a non-infected herd, and kept in a modern barn of this variety, in one winter, will often infect the entire stable. On the other hand, a cow badly diseased may be put in a herd where each animal has its own manger and drinking pot, especially if the manger is as high as the cow can raise her head, and the disease may not be contracted by another cow, provided the cow always uses the same manger.

The original female of the bovine race was at first possessed with the responsibility of reproducing her species, and furnishing sufficient milk for sustenance for a few weeks of its life, then lactation ended, the cow became pregnant again, repeating the process annually. This gave the system ample time to regain its normal vigor and strength before the advent of another birth. The animal ran wild, without the administration of highly stimulating grain-foods, and was not, as now, kept in close confinement, with no exercise, in a contaminated germ-laden stable.

When applied to the use of man for dairy purposes, what was required of the cow, and what was her environment ? She was compelled to convert the greatest possible amount of feed into marketable products, and as her life-value was, and is, measured only by the ability to produce milk and butter, the process of lactation was steadily increased to its utmost capacity, having been occasionally interrupted by the birth of a poor, weakly, half-starved calf. This is the life history of the "Number One" dairy cow of the present day.

You may ask how such change has been brought about, and who is reponsible ? A moment of reflection will show. It is simply the result of the transmission of paternal characteristics and impressions, which is the sole object of careful breeding.

How is it done, you may ask ?

By so feeding, housing, nursing, milking. and generally treating an animal as to develop her milk-producing organs out of proportion to, and in excess of, the rest of the physical structure; and to prolong the period of lactation until the birth of the next calf, which she is expected to create in her own image.

We all know that a pregnant cow (like all other animals, according to natural laws), emphasizes in her offspring the character of quality that is made the most prominent in the being, during the term of pregnancy ; and what is more prominent than the production of milk ?

If this calf should be a heifer, she is carefully raised and mated with a male that has been produced under like conditions, possibly of the same ancestry, that has had instilled into him the property of begetting the same characteristics. The result is an unbalanced accumulation of forces in the next generation, with an insufficient supply of vitality to run the machine to its proper capacity, and hence a break down.

This line of breeding, developing, transmitting, and inheriting only those properties that seem to apply to our immediate needs or demands in the production of milk, butter or cheese, regardless of the conditions and vigor of the race, must of necessity, if followed generation after generation, have the effect of detracting from the vitality, energy and power of resisting disease.

It must also create a tendency in generations to come, or a predisposition, if you please, to such disease as the bovine species is heir to, and as the normal temperature is about the proper degree for the propagation of the tubercle bacilli, and the attendants are more likely to carry tuberculosis than other diseases to which the cow is susceptible, it can readily be seen *why* this disease among dairy cattle.

The majority of the better organized and conducted dairies in countries which are under the direct supervision of a veterinarian or a physician, refuse to have any attendants who are in the slightest degree affected with the disease.

The cows which are the best milkers are the most predisposed to the trouble because of their in-breeding, which carries with it a tendency to tuberculosis. and this is further exaggerated by a life of close confinement and lack of exercise.

For over five centuries it has been a criminal offence to import a male animal of the bovine species into the "Alderney Isles," to such a dangerous excess is in-breeding practiced.

Clinical study of tuberculosis in man has shown that a temperature of 101°–103° F. is the one at which the disease develops most rapidly.

The normal temperature of the cow is 101°, and when in a warm stable and grain fed, it may reach 102°. Consequently the animal in its normal condition has a body temperature at which the tubercle bacilli will most rapidly thrive.

This means that the cow is naturally much less immune than man with his normal temperature 98⅗°.

If to this natural tendency to contract the disease, we add the deteriorating influences which come from in-breeding, and from a life deprived of exercise, and from conversion of the cow into a specialized milk-making machine, we can readily see how a few tubercle bacilli, possibly brought by a tuberculous attendant, can be spread throughout a herd, if we bear carefully in mind the arrangement of the stable, which has been described in detail.

One cow can readily become a source of infection for three others, even should it keep the position in the stable all the time, and much more so, if its position is changed every time it returns from pasturage.

The management of herd inspection varies in different states, according to the laws of various veterinary boards. In Pennsylvania this is quite thorough.

A herd owner notifies the State Veterinarian that he has a a suspicious case, and desires an examination.

An inspection is at once ordered, and the animal is injected with Koch's lymph, and the temperature is taken at certain hours, before and after injection, carefully noted.

Those cows in which a reaction of over 2° is discovered are immediately killed.

The inspection laws of some states are by no means thorough, and especially is this so in one of the states from which the cities of Philadelphia and New York are supplied with milk.

To briefly summarize : it is the opinion of the writer that the cow is more likely than man to be a culture medium for tuberculosis, for the following reasons:—

1. A normal temperature nearer to that which is most favorable to the growth of the germ.

2. Generations of in-breeding of milk cattle.

3. Local stable conditions favorable to ready contamination.

EDITORIAL COMMENTS

The Treatment of Acute Intussusception

When in a previously healthy infant we observe severe abdominal pains occurring in paroxysms, each paroxysm being attended by vomiting and more or less collapse, and when there are present tenesmus and mucous or bloody stools, we most probably have to deal with an acute intestinal intussusception. When, in addition to these symptoms, we can make out an elongated tumor on abdominal palpation, or can feel a protrusion on rectal examination, the diagnosis of this condition can be made with almost absolute certainty.

What should the general practitioner do to relieve this condition? If the symptoms are urgent, it will probably be impossible to reduce the intussusception by injections when the condition has lasted for many hours. If we try this method of treatment, the child had better be anesthetised and inverted, and hot salt solution injected into the colon under a pressure of only three or four feet. The amount the colon will hold differs very much in different cases. There is certainly some danger of rupturing the gut, even with slight hydrostatic pressure, if it be gangrenous. Whether it is gangrenous or not at the time of the injection, we can only judge by the acuteness and duration of the symptoms. The actual number of cases in which rupture of the intestine from hydrostatic pressure has occurred is very small, nevertheless some excellent authorities state that this method should never be employed in acute cases when the disease has lasted more than twelve hours. A great objection to it is that it is apt to lead the timid into placing too much confidence in it, and so cause most valuable time to be lost. When the situation of the obstruction is in the small intestine, reduction by hydrostatic pressure need not be attempted, as water will not pass the ileo-cecal valve, except in the rare instances when it is congenitally deformed. Air is more apt to be successful in these cases, and has been particularly advised here because it is more likely to pass the valve. Dr. Rotch has pointed out that, as the invaginated portion of the intestine is not on a line with the axis of the canal but at an angle to it, hydrostatic pressure when persisted in may tend to push the different layers of the intestine together, and so actually prevent reduction.

Intussusception must be regarded from the beginning as a surgical and not a medical affection. By some surgeons injection is only tried in very recent cases, and then only after every preparation has been made for laparotomy should the former method fail. Others do not attempt reduction by injection at all, but proceed at once to operate. Injection is only of value when it is easily successful, so that, like taxis in strangulated hernia, it should not be persisted in. Operation is far more likely to result favorably if done early, before adhesions have formed or gangrene occurred. Even the occasional operator is more likely to be successful early in the affection than if, beguiled by ultra-conservatism, he continue to try the injection treatment until inflammatory changes have occurred. Firm adhesions greatly increase the difficulties of the operation, while gangrene makes the prognosis almost hopeless.

Again, it is often impossible to tell with certainty whether the intussusception has been reduced when the injection method has been employed. It is highly probable that the so-called recurrence after reduction is only a recurrence of the symptoms, due to partial or complete failure to effect reduction. It would seem then that early operation is indicated both because the operation is much simpler and more likely to be successful at this time, as well as because it is the only method by which we can be absolutely certain that reduction has been accomplished. That young children stand abdominal operations badly is denied by excellent authorities and, even if true, should not deter operation in what is nearly always a fatal affection when reduction is not accomplisned easily by injection or early surgical interference.

Hygiene of Telephones

A certain number of persons using public telephones in the cities of France have expressed fears relative to the contraction of contagious disease from the promiscuous employment of the instruments by all classes of the public. M. Mougeot, Under Secretary of State for the postal and telegraphic service, has named a commission, consisting of Drs. Grancher, Roux, Nocard and Marc Sée, to study the question. This announcement (in the *Gazette Médicale*) ought to attract some attention among ourselves. There can be no doubt that infectious matter from the mouth can be and often is transferred to the telephone mouth-piece by persons of uncleanly habits, particularly when the face is bearded. In the case of children's diseases the danger would be minimized by the infrequent use of the 'phone by children. We know, however, of no reason why syphilitic virus from the mouth of a patient in the contagion stage (and hundreds of such patients walk the streets and fill the business houses of cities everywhere) might not readily be left behind by the users of the instrument. Till the apprehension is definitely proved groundless, it would at least be a wise plan for the careful man to avoid absolute contact with the instrument anywhere except with the hands.

Automobiles for French Physicians

The director of the *Gazette Médicale* of Paris is undertaking, in the supposed interests of French physicians, an automobile *propaganda*. His propositions are these: The modern French doctor does not know how to drive horses, and does not find the interest in those "excellent beasts" that he formerly did. Furthermore, at the time of his graduation his means are usually much too limited to buy an automobile. The solution for this difficulty is that certain wealthy and experienced men of business should organize a financial concern for *renting* automobiles at a reasonable figure to physicians, or for selling on the installment plan to those who prefer to buy. Pursuant to his call for support he prints several amusing letters. One details at length the mechanical changes needed to make the ordinary design of automobiles better adapted to the needs of medical men. Another letter describes with *éclat* an emergency operation for strangulated hernia done by an automobilist-physician in the country; the materials for sterilization, boiled water, alcohol, etc., were taken from the machine itself. The outcome of this noble undertaking is to be observed with interest!

BOOK REVIEW.

SHUTTLEWORTH. MENTALLY DEFICIENT CHILDREN: **Their Treatment and Training. By G. E. Shuttleworth, B.A., M.D. Second Edition. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.**

The feature which made this little book so useful in its first edition have been preserved, and two new chapters added, "giving some account of the enquiry undertaken for the Education Department by a committee," of which the author was a member, and also "of the practical measures adopted for special instruction" by the authorities of several English schools. The style of the book is straightforward, and to a certain degree untechnical. The latter feature makes it of exceptional value and interest to many non-medical readers and to workers in educational fields. The chapter on "Results and Conclusions," urging the vast and astonishing value of training for mentally deficient children, cannot be too widely read both by the laity and the medical profession. There are still too many physicians who have not taken the pains to inform themselves what a wonderful transformation well directed education can make in the mind and habits of the imbecile child.

SOCIETY REPORTS

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 29, 1900.

GEORGE B. FOWLER, M.D., President.

How the Milk Supply of New York may be Improved.—Dr. HENRY DWIGHT CHAPIN opened the discussion on the milk supply by a communication on this subject. He said that 1,250,000 quarts of milk are received in New York City daily, and that this supply comes from five different States, some of this a distance of 500 miles. From personal inquiry he had learned from nineteen of the larger milk dealers in the city that they guaranteed their milk to contain 4 per cent. of butter fat. As a rule the milk was delivered to the consumer in a period varying from twelve to thirty-six hours after milking. At the present time about 75 per cent. of the milk now received in this city came from receiving stations or "creameries." He had made thirty-two assays of milk purchased from these dealers in open market and, as a result, had learned that the lowest proportion of butter in these samples has been 3.25 per cent. and the highest 5.25 per cent. From the fact that large quantities of preservatives were sold in dairy regions it was reasonable to infer that these materials were being still added by many dairymen to their milk. The substances most commonly employed are boric acid, borax, and formaldehyde. While in themselves not especially hurtful, they hardened the casein of the milk and so rendered it more difficult of digestion.

The Work of the United States Department of Agriculture in Connection with the Production and Handling of Milk.—Major HENRY E. ALVORD, Chief of the Dairy Division, Bureau of Animal Industry, Washington, D.C., discussed this topic. He stated that the function of his department was to acquire and disseminate knowledge which would be of interest and use to dairymen. The department had also concerned itself with finding proper markets for dairy products, and to this end proposed to have an extensive display under governmental management at the coming Paris Exposition. The speaker said that although numerous attempts had been made since 1840 to count the number of cows in the United States, all previous censuses had not been even approximate. As nearly as could be ascertained there was something over 5,000,000 cows in this country, making about one cow to every fourteen persons of all ages. After making due allowance for the varying quantities of milk furnished by individual cows, it was probable that the milk supply in this country amounted to only about half a pint a day for each person in the United States. The speaker said that there was indisputable evidence going to show that the quality of the milk at the present time was greatly superior to that formerly in the market, and he attributed this improvement more to individual enterprise on the part of dairymen and milk companies than to legislation. In his opinion, the standard of the 3 per cent. butter fat was enough for all practical purposes for milk used as food; for milk containing a larger proportion than this often proved to be too rich to be easily digested, and in the case of small infants, it was commonly necessary to dilute it to enable the digestive organs to properly assimilate it. There had been much needless alarm over the question of the possible danger of milk as a food; the actual presence of disease germs in the milk supply was very rare, and the case of of injury from the presence of these germs rarer still. No argument was necessary to show the undesirability of adding preservatives to milk as they simply constituted a premium on carelessness, filth, and dishonesty, but he felt very much the same way in regard to the now popular method of preserving milk by sterilization and pasteurization. It was also well to bear in mind that condensed milk is much less digestible than good natural milk. In regard to the food value of skimmed milk, the speaker took very decided ground. He said that 100 pounds of skimmed milk contained more valuable food for the human being than 100 pounds of whole milk. The butter fat was certainly a useful constituent of milk but it was not the valuable portion of this new product.

The New York Board of Health has taken a very unworthy position on this matter of the sale of skimmed milk. The speaker declared that there was no article of animal food on this continent which could compare in value, pound for pound, with skimmed milk, and yet its sale had been prohibited by the New York City health authorities rather than exert themselves sufficiently to properly regulate this trade. Boston had not found it impossible to regulate the traffic in skimmed milk, and this product was very largely used by the dairymen in the Connecticut Valley, who found it an extremely valuable food-stuff.

Dairy Bacteriology.—Prof. H. W. Conn, of Wesleyan University, Middletown, Conn., took up this topic. He stated that if the ordinary sediment from milk was examined under the microscope it would be found commonly to contain sticks, legs and wings of insects, bits of hay, blood, pus, and a large quantity of other dirt, particularly excrement. Some person with a mathemathical tendency had calculated that the people in the City of New York consumed daily at least 300 pounds of cow's excrement. Many seemed to think that the centrifugal machine and the strainer were capable of removing not only the coarser portions of the dirt, but also many of the bacteria. This was not true; it would be found that when the milk was subjected to both these processes it would contain a larger number of bacteria to the cubic millimetre than before. This was explained by the fact that large numbers of bacteria were often enclosed in masses of dirt and other fine matter, and that when these were broken up by the centrifugal machine or by the fine strainer, the bacteria would be liberated and consequently the total number in the milk would be largely augmented. The cow was, after all, the great source of bacteria in the milk. Ordinary city milk contained from three to six million bacteria per cubic centimeter, and the number, of course, varied greatly with the cleanliness of the dairy and the dairyman, the age of the milk, and the temperature at which it had been stored. It could not be said that the presence of bacteria in the milk was an unmixed evil, for they had been the means, strangely enough, of developing certain branches of the milk industry to a great extent. For example, these bacteria are responsible for the delicate flavor given to fine butter, and it was well known that butter made from cream, free from bacteria, is tasteless. This tasteless butter had a ready market in Europe but was not appreciated in this country and could not be sold. The taste of cheese also largely depended upon the presence of bacteria. However, only a few of the bacteria found in milk were really parasitic or pathogenic; the number of diseases of the human species that could be attributed to the milk supply could almost be counted on the fingers of one hand.

These diseases were conveniently divided into three types. The first type were among those coming from the cow; the second, those due to secondary contamination; and the third, the result of toxines produced by the growth of bacteria in the milk rather than diseases resulting from the bacteria themselves growing in the human system. In the first class there was only one disease affecting the human species that was of any great importance, namely, tuberculosis, and he felt that the danger of contracting tuberculosis from the ingestion of milk had been very greatly exaggerated. He based his opinion on the fact, first, that tuberculosis was present to a considerable extent in the milch cows of all civilized countries. A tubercular cow may produce milk impregnated with tubercle bacilli, and, of course, if the tuberculosis is located in the cow's udder, the cow *will* produce milk so impregnated with bacilli. It was uncertain, however, whether a tuberculosis process elsewhere in the animal would result in the milk being affected with tubercle bacilli. Of course, he did not include in this statement the condition generally described under the name of general tuberculosis. Again, it did not follow that milk containing tubercle bacilli would necessarily result in the development of tuberculosis in the person using that milk. The great seat of tuberculosis in mankind is the lung, and the germs gain access there, of course, through the respiratory passages and not by swallowing or ingestion. If tuberculosis in man were so commonly the result of the ingestion of milk or other food infected with the bacilli, it would be reasonable to suppose that intestinal tuberculosis would be often primary in the intestinal tract, but such was certainly not the case. It should be remembered also that when milk was taken in this way it must be exposed to the action of the gastric juice, the hydrochloric acid and the intestinal juices and must be able to survive this ordeal if it would enter the human system through this channel. There was also good reason for believing that the species of tubercle bacillus producing the disease in man was at least slightly different from the one giving rise to bovine tuberculosis. It should be remembered in this connection that while human tuberculosis was on the decrease in all civilized countries, bovine tuberculosis was rapidly increasing; so that the decrease of tuberculosis in man was just as great in the United States and England where ordinary milk is taken raw, as in other countries, where it is customary to take the milk practically in a sterile state. He would not be understood as saying that there was no danger from taking milk from tuberculous animals, but he wished very emphatically to express his belief that this danger had been grossly exaggerated. Other less common affections arising from disease of the cow were scarlet fever and diphtheria. Prominent among the diseases of the second class, or those the result of secondary contamination, stood typhoid fever. Doubtless within the last five years as many as fifty such epidemics had been traced to the milk supply. And the reason for this was to be found in the ability of the typhoid bacillus to grow and multiply after its entrance into the milk, which was in marked contrast to the behavior of the tubercle bacillus. The diseases of the third class were chiefly diarrheal affections seen in hot weather, and due to the abundant growth in the milk of many bacteria and the consequent formation of numerous toxins. While he agreed heartily with the previous speaker regarding the undesirability of sterilizing or pasteurizing milk, nevertheless the present state of our milk supply rendered such measures absolutely necessary in many cases, and they could not be discarded simply because they might encourage uncleanliness in the dairy. In conclusion the speaker said that if the people desired milk of good quality, they must expect to pay a good price for it, for otherwise the quality must necessarily be rendered inferior.

The Work of the New York Board of Health.—Dr. HERMAN BETZ, Chief Inspector of the Milk in the Health Department of New York City described the work of the Board in this department and the mode of making the inspections. He stated that the Borough of Manhattan was divided into nine different inspection districts and that there were ten milk inspectors on the force. Each inspection district embraces 600 or 700 stores in which milk is sold. In the year 1899, 8,047 inspections were made, 48,832 specimens of milk were examined, and 117 arrests were made. The department is able to trace any individual can of milk by means of the letters on the cover, which gives the railroad carrying the milk, the number of the station from which the milk comes, as well as the owner. He stated that if the analysis of the suspected sample of milk showed it to be more than 5 per cent. low in solids, or 10 per cent. low in butter fat, a warrant was at once issued for the arrest of the dealer. Since the year 1896 every milk dealer has been required to obtain a permit from the Health Department, these only being issued after the Department had been satisfied by a personal inspection as to the propriety of allowing milk to be sold in the place, applying for such permit. These permits are revocable if the milk is below standard, and if any dealer has been arrested and convicted twice he is put entirely out of business. The Health Board forbade the sale of skimmed milk and also from condensed milk made from skimmed milk in this city. It has also succeeded in driving entirely out of business those who offered for sale milk preserved by the use of chemicals.

The Question from the Milk Dealers' Standpoint.—Mr. A. Cuddebach took up the discussion of this topic. He attributed the improvement in the milk supply to the popularity of bottled milk and the consequent education of the people to look for a certain depth of cream on the surface of the milk in the bottle. This bottling of the milk had also rendered it necessary for the small dealers to combine in order to better bear the expense involved by such a mode of doing business. Among other advantages was that by such consolidation it is possible to transport the milk properly packed in ice cars, and so have it keep cool until it reaches the consumer. A point worth noting was that when the centrifuge was used, even though no butter fat was removed by this process, the cream would not rise so rapidly, and, consequently, to the consumer it would not appear that the milk was as rich as another specimen that had not been submitted to this process.

Mr. L. A. Halsey also spoke from the standpoint of the milk dealer. He emphasized the point already made by Prof. Conn—that it was impossible to furnish a proper quality of milk unless adequate compensation was made. If the milk dealer cut down his price for selling the milk it would be necessary for the dairy people to receive less pay for their product, and consequently they could not afford the requisite food and proper environment for the cows and the necessary means for handling the milk in the most improved manner. He thought all milk dealers would agree with him that, under present conditions, it was impossible to distribute milk in small quantities to private families in this part of the country at a lower price than eight cents per quart. Mr. Halsey called attention to the fact that some of our wealthy citizens were incidentally responsible for failure to improve the milk supply. This happened because the wealthy people would leave the matter of purchasing their milk and other supplies for their tables entirely to their chef, and the latter would levy a high commission upon the milk dealer, and would take almost any quality of milk, provided he could get the commission asked for.

Dr. H. G. Piffard said that a great deal of the trouble experienced in improving the milk supply of this city was owing to the antiquated methods adopted by our health authorities for regulating this traffic. The prescribed standard of three per cent. butter fat was very low when compared with the general average of milk supplied by the cows of this country. He was in favor of having the standard of milk properly defined, but also allowing other and inferior grades of milk to be sold in the same market at a lower price. He was particularly opposed to the present method of having a double standard—namely three per cent. butter fat, and four per cent. total solids, and pointed out that Major Alvord had already demonstrated that the farmers were adopting the plan of sophisticating the milk, in order to bring it up to the required standard of total solids. This unwise double standard had also had another effect, namely it had caused the dairy people in certain regions to sell their fine stock of cows, and purchase inferior ones, in order that they might make more money, and at the same time meet the requirements demanded by this absurd double standard of milk. Dr. Piffard recommended that milk coming in cans to this city should only be taken from an area bound by an east-and-west line drawn through the city of Albany, and a north-and-south line drawn through Binghampton.

ABSTRACTS

SCARLATINA—SCARLATINOUS SORE THROAT.

W. J. Class, M.D., (*Jour. American Medical Association*, 1900, xxxiv., p. 476), says in a paper on this subject:

The author has examined cultures taken from the throats of more than three hundred patients with scarlet fever and scarlatinous sore throat. Of 300 of these, a brief record was made; 212 were cases of what is generally called scarlet fever, i.e.; a fever accompanied by a more or less distinct eruption, consisting of small red spots, separated at first, but soon becoming united by a diffuse scarlet erythema and followed by desquamation; 88 were cases of angina without any, or at least a scarcely perceptible skin lesion. In all of these 300 patients the primary throat culture showed the presence of the micro-organism previously described by him as the specific scarlet fever germ. In about 80 instances the different germs composing the throat cultures were isolated by means of a modification of the plate method, and the "diplococcus scarlatinæ" obtained in pure culture.

There is little difficulty for one at all familiar with bacteriology to recognize the germ after having once become familiar with its cultural and morphologic characteristics, as already described by the author. Its chief cultural one is the glutinous character of the growth. This characteristic is usually, though not always, well marked in primary cultures of the scarlet fever germ taken from the throat: sub-cultures, as a rule, do not show it. The chief morphologic features are its size, primary cultures usually showing it as an organism resembling a huge gonococcus, and the fact that unless the culture is rubbed very hard the germs will show a distinct tendency to group in bunches. A given culture taken from the throat, therefore, which, when a loop of the material of which it is composed is taken up, shows a tendency toward being drawn out into threads, and which under the microscope shows large numbers of large diplococci having a tendency toward clumping, may be safely called a scarlet fever culture.

In closing, the writer briefly states his reason for believing his "diplococcus scarlatinæ" to be the causative factor of scarlet fever:

1. Because the germ is invariably present in the throat secretions, blood and scales of a patient having scarlatina, and because it is a separate and distinct organism, not heretofore described.

2. Because it has been proven to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in a space of time varying from less than one to twenty-four hours according to its virulence.

3. Because it produces, in swine, a disease whose macroscopic lesions closely resembles those seen in scarlet fever as it occurs in the human patient.

4. Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth.

5. Because the sub-cutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis.

6. Because the experiment quoted in this paper apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal from the invasion of the germ.

A STUDY OF LESSONS OF THE LIVER IN YOUNG CHILDREN.

Rowland Godfrey Freeman, M.D., (*Archives of Pediatrics*, 1900, xvii., p. 81), in a paper on this subject concludes as follows:

1. Descent of the liver down the right side of the abdomen, so that the right lobe reaches below the crest of the ilium, occurs not very rarely in infants, and particularly in those whose liver is enlarged.

2. Fatty liver occurs very frequently in the infants and children which die at the Foundling Hospital, or in about 41 per cent. of all cases.

3. The condition of nutrition of the child, as expressed by the absence of fat in general and wasting of tissue, apparently has no connection with the fatty condition of the liver, the condition of nutrition in the cases having fatty livers, averaging about the same as in the whole number of cases.

4. Fatty liver occurs rarely in the following chronic wasting diseases: Marasmus, malnutrition, rachitis and syphilis, unless such condition be complicated by an acute disease.

5. With tuberculosis fatty livers occur not more often than with other conditions,

6. Fatty livers occur most often with the acute infectious diseases and gastro-intestinal disorders.

7. The two cases of cirrhosis of the liver examined by the writer ran a comparatively acute course. The livers on section showed a marked hyperplasia of the so-called new-formed bile-ducts.

8. Focal necrosis of the liver may be a lesion of measles.

ELEVEN CASES OF HYPOGASTRIC INCISION FOR VESICAL CALCULUS IN INFANCY.

In eleven cases operated upon by Estor, two died of cholera infantum; of the nine remaining five were drained: in the other four complete closure of the wound was resorted to. In the latter cases, with one exception, healing was not more rapid than in the cases in which drainage was used. In three patients the vesical wound opened. He attributes this to the difficulty of suturing the lower part of the wound. The author prefers to make the incision as close as possible to the top of the bladder. When on account of the size of the stone the incision has to be made low, it is better to drain the bladder. The duration of treatment is not prolonged, if a single, small drainage tube is used. In all cases in which the vesical wound is closed, the author considers it imprudent not to drain the space of Retzius.—(*Annales de Médecine et Chirurgie Infantiles*, Jan., 1900.)

URINARY FISTULA AT THE UMBILICUS DUE TO PERSISTENCE OF THE URACHUS.

CH. MONOD operated on a boy of ten, suffering from an umbilical urinary fistula, due to persistence of the urachus, by the following method:—

He first made an elliptical incision around the fistula and cicatricial skin which surrounded it; he then entered the abdomen and dissected the urachus free; then he resected it entirely, encroaching somewhat on the top of the bladder. The bladder wound was then closed, according to the usual method of dealing with wounds of this viscus. He insists upon careful repair of the abdominal wall to prevent hernia. For this object he advises not only excision of the umbilicus, but free exposure of the recti by opening their sheaths, in order by suturing their borders to obtain a given wall which may effectively oppose subsequent exit of the intestine.—(*Annales de Médecine et Chirurgie Infantiles*, Jan., 1900.)

FOREIGN PEDIATRIC JOURNALS.

Abstracts of all Original Articles Appearing in Foreign Journals Devoted to Pediatrics

JAHRBUCH FÜR KINDERHEILKUNDE, FEBRUARY 6, 1900.

I. **Poisoning by Alkalies in Children.**—AXEL JOHANESSEN, (Christiania), —Johanessen noticed of late years the frequency of poisoning of children by caustic alkalies, He collected 140 cases from the records of his clinic for the five years, 1893-'98.

The author emphasizes the fact that toxicologists since Orfila have considered poisoning by means of caustic alkalies a comparatively rare occurrence, and that his own figures are extraordinary in view of former statistics.

He goes on to analyze the 140 cases in detail. The majority were boys below the age of four, and were children of poor parents. He mentions the fact that the poisonous substances can be very easily obtained by any one, and are usually kept without precautions in the kitchen, frequently in containers, intended to be filled with milk, jam, etc.

A physician was not consulted immediately in the majority of cases, but the length of time which elapsed before his aid was sought, ranged from one day to five years. Of the patients who were treated within a few days of the poisoning, the majority recovered under treatment with mild acids. Three, i.e., 6.1 per cent. died: one in the presence of severe toxic symptoms ten days after the ingestion of the alkali, another of broncho-pneumonia after three months, and the third after profuse hemorrhage from the mouth after 3½ months. In addition four patients who were brought into the dispensary in a state of collapse, died in the clinic.

The after-treatment in a number of cases (104), consisted in the use of œsophageal bougies, which were usually employed ten days after the poisoning, and were repeated three or four times a week, the largest bougie used being Charrière's No. 30. In four cases surgical operations were necessary, viz.: External œsophagotomy or gastrotomy. One of the latter died. The author concludes with a discussion of the regulations to be prescribed by law for the prevention of the occurrence of such accidents—a discussion which is of local interest only, inasmuch as it deals with questions of Norwegian jurisprudence. A complete tabulated analysis of the 140 cases is appended.

II. **The Treatment of Rachitis with Suprarenal Extract.**—W. STOELTZNER. In this article the author concludes the discussion of the merits of adrenal substance, which he began in a previous issue of the year-book.

He gives an account of cases 27 to 71, of his series, and sums up his experience with the drug in the following conclusions:

I. The administration of supra-renal extract was never followed by unfavorable symptoms of any kind.

II. The drug has a very favorable effect upon the condition of the children treated.

III. The symptoms which are most beneficially influenced are: The excessive perspiration, the craniotabes, the retarded dentition, and the delayed ability to sit, to stand, and to walk, the sensitiveness to touch, the restlessness, and the abnormal vasomotor irritability of the skin.

IV. The peculiar property of the urine of many rachitic children which has been described by the author, namely the presence of the odor of trimethylamin, and after standing awhile, of ammonia, is also among the symptoms which improve considerably after the use of the drug.

V. The abnormal softness of the thorax and the rachitic kyphosis are also frequently improved.

VI. The least noticeable effect of the treatment is the improvement in the size of the fontanelle, the rosary, the deformities of the extremities, and of the thorax. A study of the clinical histories, however, shows that even these symptoms of rickets have improved under the use of the drug. It is perfectly natural that these symptoms can only change very gradually.

VII. The laryngeal spasm and the other tetanoid symptoms remain unaffected by the drug.

VIII. A considerable improvement often takes place in the first week of the treatment.

IX. In many cases there is a very marked improvement in the first few weeks of the treatment, but the subsequent progress of the case is but a slow one.

X. If the treatment be interrupted, there is frequently an arrest in the improvement of the patient, or even a turn for the worse in the rachitic process. In such cases, however, if the treatment be resumed, the improvement again begins to make good progress.

XI. Even in severe and complicated cases there is usually a notable improvement.

XII. In one case of very severe rachitis, the recovery under the use of the drug has been confirmed by histologic examination.

3. **Concerning Tetany and Tetanoid Conditions in Early Childhood.**—Martin Thiemich (Breslau). The author continues the article which was begun in a former issue of the year-book, and discusses the diagnostic value of the various symptoms of tetany and latent tetany, i.e., the peculiar condition of the neuro-muscular system which is present in children who are subject to attacks of tetanoid spasms, and which persists after these attacks.

He believes that a *sine qua non* in the diagnosis of latent tetany is the test for galvanic nerve irritability. Mechanical nerve irritability may also help if distinctly present, but its absence does not exclude the presence of tetany, and it is a far less exact test, inasmuch as we do not possess a standard for measuring the stimulus, and the personal equation of the examiner is allowed too much free sway. Mechanical irritability of muscles is still less reliable, as it is present in cachexia in all ages.

The two symptoms of tetany which have been so much discussed,—Trousseau's brachial phenomenon and Chvostek's facial symptom,—next receive their share of consideration. The author states that neither of these phenomena are reflex manifestations, but that they are merely evidences of an abnormal irritability to mechanical stimuli on the part of the facial and brachial nerves respectively. Trousseau's symptom is of little value in the diagnosis of latent tetany because it usually disappears shortly after the attack of carpal and pedal spasms, while the patient is still in a tetanoid condition, as evidenced by the fact that it responds to the other tests. Chvostek's symptom occurs only in the more pronounced cases, but it is of more value than Trousseau's in the diagnosis of latent tetany because it remains longer after the attacks in latent cases.

The author next describes under the name of "lip-phenomenon" a symptom which he was able to find in two cases. When the corner of the mouth or any part of the upper lip is tapped in a waking child, there results a sudden puckering of the lips which gives the mouth an appearance of a snout, or of the mouth of a carp. Escherich found that on tapping the corner of the mouth in a sleeping child there results a contraction of the opposite side of the lips into the whistling attitude. The author cannot see why the opposite side should be affected, and cannot recall an analogy in any other part of the body under similar physiologic conditions.

Laryngismus stridulus is very frequently associated with tetany, and the author thinks that in all cases of laryngeal spasm the physician should test at least one nerve galvanically, in order to determine the presence of latent tetany.

As to the connection of tetany and rickets, the author thinks that the present state of our knowledge of the pathology of rachitis does not allow an intelligent discussion of the subject, and that at any rate the theory of Kassowitz, concerning the influence of hyperemic cranial bones must be rejected in view of the existent anatomic and clinical data.

The author does not give any new facts concerning the other clinical features of tetany. He records a number of interesting data, however, concerning the clonic general convulsions sometimes known as *eclampsia infantum.*

The occurrence of eclamptic or epileptiform convulsions in tetany has been observed by the earlier authors on this subject in connection with attacks of laryngeal spasm. But these convulsive seizures are of no great pathologic importance. They are, of course, accompanied by extreme asphyxia, but no deaths have as yet been recorded from these attacks.

Another class of epileptiform convulsions which occur in tetany are of greater interest. They are very similar to the typical epileptic or eclamptic seizure, and only a detailed examination will reveal the presence of the tetanoid state. The writer has seen eleven such cases which he reports at length. Only in one of these cases was there any laryngeal spasm, and this only preparatory to the development of the attack. There was no asphyxia in any of these cases, and the attacks consisted of a series of clonic convulsions which succeeded one another like electric shocks.

These convulsive seizures cannot be differentiated from convulsions due to other causes than tetany, and they occur in the absence of Erb's galvanic irritability test. They may, however, be the only symptom of tetany. Hence the importance of making the galvanic test in every case of infantile eclampsia of a doubtful origin.

The objective clinical signs of this condition are not in proportion to the amount of irritability, and the seat of the irritability may be peripheral or central, or both.

The principal indications for treatment are to remove as far as possible all sources of irritation, and to prevent the recurrence of the convulsions. This is accomplished by enemata, stomach-washing; and by the plentiful administration of water, in order, as it were, to wash out the system. If the convulsions take place without an abnormal irritability of the nervous system, it is not necessary to use any narcotic or antispasmodic drugs, for in such cases there is no danger to life except by heart failure, which is more easy if depressants are given. On the other hand, in cases where, as in tetany, there is an abnormal irritability of the entire nervous system it is necessary to employ some drugs that will lessen this condition, a treatment which is both symptomatic and rational. Of course, we must also seek to remove any other pathologic condition which may be a causal factor in producing the tetanoid state.

4. **Concerning Sepsis in Infancy.**—H. FINKELSTEIN (Berlin).—The author defines as "sepsis" those conditions which are the result of infection by the non-specific germs, such as the streptococci, the staphylococci, diplococci, bacillus coli, pyocyaneus, proteus, and others. These are divided, according to Kocher, into two general groups: the bacteriæmic and the toxæmic. When the inflammatory process is only on the surface of a mucous membrane, e. g., a streptococcus bronchitis, we cannot say that sepsis is present; but if the bacteria have succeeded in penetrating into the tissues, and have set up an interstitial inflammation, which gradually spreads to other parts of the body, we may consider sepsis to be established.

The sources of infection are a purely bacteriologic question, and the clinician is more interested in the modes of entrance of the germs. These may be conveniently divided into wound infections and mucous membrane infections. The majority of the septic conditions in infants are wound infections, e. g., umbilical infection, eczema, intertriginous erosions, bedsores, etc. Among the infections of the mucous surfaces, may be mentioned conjunctival blennorrhœa, nasal erysipelas, retropharyngeal abscess, the infections of the mouth, palate, tonsils, salivary glands, and the ear. But all these are comparatively rare modes of entrance for general sepsis. When we come to the respiratory organs, however, especially the lungs, bronchi and pleura, we have a more frequented gateway for the entrance of infection. The tendency of pneumonic processes in the lungs of infants to spread, and to develop into general sepsis, is well known. The lungs are frequently the seat of mixed infections, especially with the germ of influenza. General sepsis from an extension of pneumonic processes is not very frequent, and is most often found in the latter part of the nursing period of infancy.

Of late it has been found that the urinary organs are by far more important gateways of sepsis than is usually supposed. Cystitis due to the colon bacillus is very frequent, and cases of ascending pyelonephritic infection are not rare.

The most interesting avenue of infection is undoubtedly the intestine. The relationship of the intestine to sepsis has been the subject of considerable discussion, and is as yet a not thoroughly explored field, although various writers have formulated certain theories which are based upon their own experience. The questions involved are these: First, are there cases of sepsis which produce intestinal symptoms, and are there instances where the presence of sepsis can be shown bacteriologically, and where there are no other symptoms than intestinal? Secondly, to what extent are bacteria found in cases of intestinal catarrhs accompanied by complications in other organs, and are these complications secondary or hematogenous? Thirdly, how does the intestine act as avenue of entrance in cases where bacteria have been shown to exist in the circulation?

There is no doubt that in the presence of a severe general infection of a septic nature, whether it be toxæmic or bacteriæmic in character, there are pronounced intestinal symptoms. In fact, as Ebstein says, certain choleraic conditions are really nothing else than acute septicæmias. In rare instances these are caused by the staphylococci, more frequently by the steptococci, and the most intense varieties are produced by the bacillus coli communis. But in no case of simple gastrœnteritis without other septic changes have there been found in the blood bacteria which could be etiologically connected with the disease. Perhaps one exception to this is a group of cases which the author observed in the summer of 1895, and in which the blood showed the presence of a peculiar bacillus which in many ways resembled that of influenza, and which probably has never been described. In order to answer the second question, we must examine the blood, for the presence of bacteria in the tissues of organs does not prove the hæmatogenous nature of the infection. The author has examined the blood in a number of cases of gastrœnteritis in infants, but no definite answer can be given as yet to this question. The majority of such cases he considers to be primary intestinal infections, which may be accompanied by severe symptoms due to the general toxæmia, which is the result of absorption of poisonous substances from the intestine. As to the complications in the other organs of the body, they are accidental, except in so far as the weakening of the resistance of the tissues is caused by the general toxæmia, Hence the pulmonary complications, the furunculosis, the thromboses of the sinuses, and the suppurative inflammations of the kidneys are independent, secondary diseases which are planted upon the soil of an enterogenous dyscrasia. Under these circumstances there may follow a general sepsis on the same soil. And this brings the writer to the discussion of the third question, namely: Whence comes this sepsis, and to what extent is it due to the enteritis? In nearly all cases the author found that another avenue of entrance could be found, e. g., the skin, etc., and in those where such a gateway was not apparent there were lesions which could be regarded as the source of the sepsis with more probability than the intestine. Even the entrance of the B. coli into the circulation through the intestinal wall is questionable. The author concludes that the normal, and the slightly diseased intestine in man is "bacteria-proof." He admits three possible cases where bacteria can penetrate through the intestinal wall: in rare cases of severe pseudomembranous enteritis followed by a peritonitis; in cases of enteritis caused by the streptococcus of Escherich, and in cases of ulceration of the intestinal mucosa, where the bacillus coli may penetrate into the blood. In such cases the mucosa of the intestine acts simply as any other mucous surface does under similar circumstances.

Finally chronic infantile atrophy has been attributed to a chronic sepsis. The author thinks that whatever local or general septic processes may accompany atrophy, they are only to be regarded as complications, and not as primary causes.

DER KINDERARZT, FEB. 2, 1900.

1. **Progressive Muscular Dystrophy.**—PETER ESCH (Leipzig).—In this article the author concludes the consideration of this interesting disease, which was begun in a preceding issue of the journal. He reports the clinical histories of cases III and IV, and summarizes the result of his observations in the following conclusions:—

I. The term "Progressive Muscular Dystrophy' is a nosologic entity, and includes Leyden's hereditary muscular atrophy, Erb's juvenile form and Landouzy-Déjérine's infantile form.

II. Progressive muscular dystrophy is of neurotic origin, and in performing autopsies, more attention should be paid to the condition of the brain.

III. The old classification of progressive muscular dystrophy is not satisfactory, and the writer proposes the following instead:—

(1) General progressive muscular dystrophy, eventually accompanied by hypertrophy, true or false.

(2) Local progressive muscular dystrophy, involving:—

(*a*) the face,
(*b*) the upper extremities,
(*c*) the lower extremities, eventually combined with true or false hypertrophy.

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2. **Enuresis Nocturna and Its Treatment.**—LEOPOLD BRUCK (Budapest). Bruck believes that it is useless to attempt to explain the pathogenesis of nocturnal enuresis by some of the ingenious theories which have been proposed. He says that the anatomic condition of the parts involved should be studied, and a sound physiologic basis given to the study of the trouble.

Ultzmann defined enuresis as an involuntary passage of normal urine in a normal child. The author accepts this definition, and excludes from consideration all cases that are due to a functional or inflammatory derangement of the genito-urinary apparatus, and even to such etiologic factors as heredity, fear of punishment, etc. He admits that the number of cases which come within this definition is very limited.

Enuresis is not necessarily connected with a weak constitution. It usually shows itself in the second or third year after the appearance of the first set of teeth. It usually disappears after puberty. A peculiarity of this affection is that it occurs in children who are very heavy sleepers, and who are not aroused even when they are dressed. The urine is passed for the most part in the early part of the night, or during the early hours of the morning. In the day these children urinate as well as any healthy child.

The bladder of a child is pyriform, and varies in capacity. It may be excessively developed in weak children, and *vice versa*. In the act of urination two muscles are concerned, the detrusor and the sphincter. They both have the function to contract the lumen of the viscus and to expel its contents. The passage of the urine into the urethra can only take place when the compressor urethræ and of other muscles which constitute the uro-genital diaphragm become relaxed. At the close of the act all the last-named muscles contract, and the urethral canal is closed. The nervous control of the act lies in an independent spinal centre which is situated in the lumbar region. Centripetal nerves carry to the brain through the spinal cord the signal that the bladder is full and is ready to empty itself, and the constrictor urethræ is controlled by a voluntary centre in the brain. This centre is located in the sigmoid gyrus. It follows that the act is purely a reflex one, and that the inhibition is purely reflex, except as far as the contraction of the constrictor urethræ is concerned, and that only in the waking state. The children affected with enuresis cannot feel the centripetal impulse when the bladder is full, because their sleep is so deep. The bladder fills in sleep in the same way as in the waking state, only more rapidly, because the intra-abdominal pressure is lessened. The deepest sleep occurs in the first hours of the night, or in the early hours of the morning. The sphincter of these children may be weaker than normal.

The treatment advocated by the author as the most rational consists of hypnotic suggestion and mechanical measures. The suggestions which are repeated when the child has been put into a state of hypnosis are to the effect that the patient will feel the impulse to urinate and will wake up. The mechanical measure recommended is the elevation of the lower part of the body in bed.

PEDIATRICS

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ORIGINAL ARTICLES

REPORT OF A CASE OF CHRONIC VALVULAR ENDOCARDITIS AND ACUTE NEPHRITIS, FOLLOWING CHOREA.*

By JOHN M. SWAN, M.D.

Philadelphia.

ON the evening of the 27th of June, 1898, M. K. was brought to my office on a child's tricycle by her father. She was complaining of a short, unproductive cough, dyspnea, palpitation, and edema of the ankles.

The family history was negative, except that both father and mother were of a rheumatic tendency.

In February, 1897, the patient was treated in the dispensary of the Presbyterian Hospital for arthritic symptoms in the knees and elbows, in the service of Dr. Naudain Duer. On the 8th of March of the same year, she was taken to the Orthopedic Hospital, where she was treated for chorea. Through the kindness of Dr. Sinkler I read the following notes that were made at the Orthopedic Hospital: "The first choreic movements were noted on the 1st of March. They began in the hands, and then extended to the body and the legs. The tongue also was involved to such a degree that it interfered with speech. The general aspect was dull, and the the child was peevish, although she slept well. The digestion was in good order, the appetite was good, the bowels were regular, the reflexes were normal, the pupils were equal, and reacted both to the light and to distance. There was a soft murmur audible at the base of the heart. The choreic movements were most marked on the left side."

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*Read before the Philadelphia Pediatric Society, March 13, 1900.

On the 1st of April the patient was again taken to the Dispensary of the Presbyterian Hospital, at which time a note was made to the effect that her pulse was accelerated so that it beat 135 times per minute. On the 11th of the same month, Dr. Duer noted a double mitral murmur, and a systolic murmur at the third left costal cartilage. The latter murmur was transmitted into the carotids.

In December of the same year, 1897, the patient developed a dry cough, for which she had been in the children's ward of the Presbyterian Hospital until a few days before I first saw her.

At the time of the first visit she was eight and one-half years of age, and weighed forty pounds. The appetite was poor, there was headache, the child was very anemic, there were choreiform movements apparent in the arms and legs, the pupils were dilated, the hands were cold, the finger tips were clubbed, and the respiratory movements were labored and shallow. The pulse was weak and rapid, 142 per minute, the respirations 40 per minute. The cardiac action was tumultuous and irregular, and although a systolic murmur could be heard all over the precordium, it was not possible to locate its point of production or to time it. Consequently, the child was sent home and to bed.

On the following day, after a night's rest and a dose of bromide, the pulse was 128, and the following description of the cardiac condition was made: "The apex beat is in the fifth interspace in the mid-clavicular line. Cardiac dullness is limited by the third interspace, the mid-clavicular line, the left edge of the sternum, and the fifth interspace. There is a pulsation that is distinctly heaving in character visible all over the precordium. There is also a pulsation in the epigastrium. There is a galop rhythm at the apex, but no thrill. There is a systolic murmur, soft in quality, heard at the apex, transmitted into the axilla, and heard at the angle of the scapula. There is a diastolic murmur heard at the ensiform cartilage, but not heard in the second interspace. There is a systolic murmur heard at the pulmonary area that is of the same character as that heard at the apex. The heart's action is tumultuous, so that it is not possible to definitely diagnose the murmurs. The mitral regurgitant and the aortic obstructive murmurs are positively present." At this time the urine contained no albumin and no sugar.

After four weeks' treatment, July 26th, 1898, although the pulse was was quite rapid, I thought it best to advise the parents to take the child to the country in Schuylkill County, for the remainder of the summer, in order to escape the excessive heat of that year. While in the country, the patient began to get worse instead of better, and the parents noticed that the feet, the face and the hands were becoming edematous. The heart's action again became tumultuous, the legs and the face were swollen, and the abdomen presented a well-marked ascites, at the time I saw her again the 2nd of September. There was no pleural effusion, however, but the urine, which presented a specific gravity of 1.024, contained 0.2 per cent. albumin, by the Esbach albuminometer, and a few hyaline casts. The pulse wa 130 per minute, and the respirations

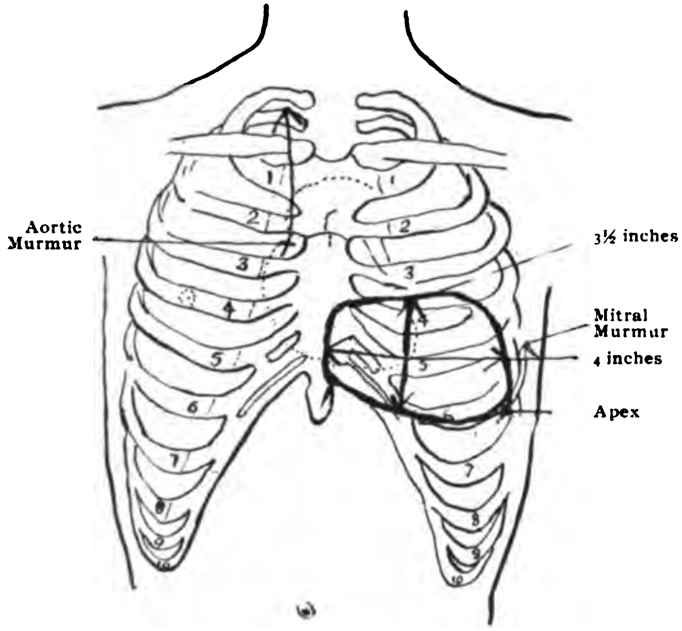

Figure I. M. K. 4, 27, 1899.

50 per minute, the latter on accouut of the upward pressure of the peritoneal effusion, which was so great that the abdomen of the patient at one time measured 32 inches.

This state of affairs lasted trom the last of August to the 5th of October, when suddenly at about four o'clock in the afternoon, the child began to pass large quantities of urine until, in all, about four pints were voided. This urine was pale, and contained the merest trace of albumin. At the same time, the edema of the face began to disappear. From this time there was more or less improvement, alternating with periods during which the symptoms seemed as bad as before. The periods of improvement, however, lasted longer than those of retrogression, and finally on April 27th, 1899, the patient was able to get up. At that time the heart had become sufficiently hypertrophied to compensate for the disorder of the circulation caused by the defective valves. The apex was in the sixth interspace, one inch outside the midclavicular line. The area of cardiac dullness extended from the third interspace to the sixth interspace, a distance of three and one-half inches. and from the mid-sternal line to one inch outside the midclavicular line, a distance of four inches. The murmurs of mitral regurgitation and aortic obstruction were still present. The diastolic murmur heard at the apex, and before described, was still audible, and I thought it indicative of mitral obstruction. The pulse was 90 per minute, respiration 28, and the abdomen measured 22½ inches. (Fig. 1.)

The treatment of this combination of cardiac and renal lesions was accomplished by rest in bed, milk diet, hot bath every day, poultices over the renal region, and the use of the following drugs: infusion and tincture of digitalis, Basham's mixture, sulphate of strychnine, citrate of potassium, codeine, and Rochelle salt.

The advisability of tapping the ascites was seriously considered, and one day I went prepared to withdraw the fluid, but on that day the condition of the patient was somewhat better than it had been on the day before, and I did not tap. Later, I did not withdraw the fluid, because I thought the removal of so much fluid might have an unfavorable influence on the heart, and that the nervous condition, into which the patient managed to get, whenever she thought some new treatment was to be inaugurated, might further counterbalance whatever good the removal of the fluid could produce. Again, I thought, if I tapped once, I would very likely have to tap many more times.

On the 24th of February, 1900, I saw the patient. She is now ten years old, weighs 60 lbs., attends school regularly, and assists her mother in the household duties, without inconvenience, except occasional shortness of breath, and a little morning cough. The pulse was 82 per minute, regular and of fair strength and volume. The respiration was 22 per minute and perfectly easy. The apex beat was in the sixth interspace, in the anterior axillary line. The cardiac dullness extended from the third rib to the sixth interspace, and from the left edge of the sternum to the anterior axillary line. There was a mitral systolic murmur, harsh and somewhat musical in quality, transmitted into the axilla, and heard all over the chest as well as at the angle of the scapula. There was also an aortic systolic murmur, transmitted into the carotids. The aortic murmur was less harsh than the mitral murmur. (Fig. 2.)

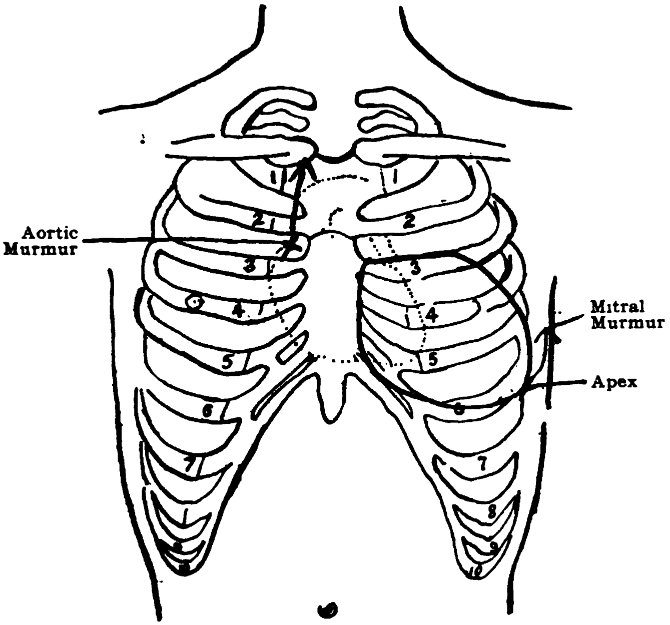

Figure 2. M. K. 2, 24, 1900.

The urine at the latter date was amber in color, acid in reaction, of urinous odor, and presented a specific gravity of 1.035. There was considerable cloudy sediment that contained many amorphous urates and a few leucocytes, but no casts. The chemic examination showed the presence of urates in large amounts, and 3.6 per cent. of urea, but there were neither albumin, glucose, nor indican. Through the kindness of Dr. L. A. Ryan, who made the quantitative tests, I am able to give the proportion of urea in the specimen.

For nearly eight months I should not have been surprised to have been informed of the death of this patient at any time. I feel that the explanation of the cure of the renal condition, and the satisfactory compensation of cardiac lesions of the extent of those that exist here, is only to be made by the fact that children are able to resist more extensive lesions of the heart, and to recover from them on account of the elements of growth that are within their bodies. This fact has been pointed out by Edmond Weill* in the following language:

"In the organism in process of growth, that is, in the child, two factors that disappear gradually as age advances, lend their assistance to correct the sequelæ of a cardiopathy. On the one hand, the process of growth places at the disposal of the myocardium the muscular elements that are needed to reinforce its walls. This process is seen in the adult, but in the child it is present with a peculiar character of duration and of intensity. On the other hand, children present a functional adaptibility of the entire organism to an abnormal condition of the circulation created by a cardiac lesion."

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* Traitement des Cardiopathies Infantiles. *Gaz. Heb. de Med. et de Chirur.*, October 9, 1898, p. 961.

ON THE ABATEMENT OF DENTAL CARIES IN PUBLIC SCHOOL CHILDREN.

By ARTHUR DEVOE, M.D.,
Seattle, Washington.

OUR public schools are charged with many evils as well as benefits to our people. Some of the vices are there generated and propagated,—some are only demonstrated and made more notable. Sometimes the schools are a mere scape-goat in the minds of parents for evils originating elsewhere. But as yet our system of public instruction is not administered with competent consideration for the physical well-being of the pupils. The boards of health seem to have great power, perhaps enough, but they are not using it in an enterprising manner for the abatement of certain crying unhygienic conditions.

Caries of the teeth is so far prevalent among young and old, as to form the basis of one of the most lucrative of arts or crafts. Now, without any wanton purpose to injure so useful a calling as dentistry, I think it high time to urge a more general recognition of this evil in an enlightened, well-physicianed country, which maintains so many of these dental operators on the high feather of luxury. Surely, it is within the scope of medical authority and duty to inquire into the causes as a matter of great public interest. Dentists may do this in their own way, but their scope of vision naturally does not cover actions and reactions of disturbed physiology,—of digestive, rachitic, scorbutic, syphilitic, or allied troubles out of which dental ills so largely arise.

The medical profession has been urged by strong and sufficient motives to join with municipal authorities to fight for the suppression of the contagious diseases,—diphtheria, tuberculosis, etc. What of the germ *micrococcus fœtidus?* This germ is the cause of disease by the very term of its classification, "pathogenic." *M. fœtidus* preys upon the teeth of our children to an alarming extent. Beginning during the nursing period in many children, and continuing through the whole period of school life, the destruction of tender, immature teeth is the misfortune of a lifetime. Our schools, where children congregate, making congested areas of population, with more or less restricted ventilation, are infested by dental caries.

The *British Medical Journal* and others have commented on the bad condition of school children's teeth in England, "which may be looked upon as a national calamity." This is a general statement, giving no count, no statistics of careful examinations. Nor have we any basis for an accurate statement of conditions prevailing in this country. Teachers and casual observers believe that they are bad. No reliable information can be obtained, except under an order from the public health authorities, co-operating with school boards, providing for detailed examinations and reports. Let some large city, for example, Boston, New York, Philadelphia, Chicago, give an order for the competent examination of the mouths of its school children of the primary grades, and make a record of the results. It will cost money, but the work, if intelligently prosecuted, and the facts tabulated, may become the foundation for constructive or saving energies to act upon.

The observations of Dr. Kuhn on 400 school children in Hanover, Germany, showing the intimate correlations of adenoids and hypertrophied tonsils with diseased teeth (PEDIATRICS, Vol. viii, p. 231) further indicate the wide sweep of this dental waste.

Children with ringworm or vermin-infested heads are sent home for treatment and purification; but what teacher notes the condition of the mouths of her pupils, or checks their promiscuous use of chewing gum, well chewed pencils, whistles, or mouth organs? But it is high time that all these things were duly noted, and repressed where children congregate.

Perhaps competent medical supervisors should be appointed for our public schools, and stated examinations of the pupils' mouths be made a part of their professional duties. Such medical examiner might have power to prescribe, and in needy cases order dental corrections at the expense of the municipality. Foul teeth should be made less foul by cement fillings at least, and injunctions for cleanliness of mouth and teeth be given. It is high time that the co-ordinate merits of medical direction and physical correction, as well as of exercise and training, should be recognized in the management of our public schools.

Parents who have carefully nurtured their children at home, caring for their habits, and preserving them clean externally and internally, with spotless teeth, may well hesitate to hazard their admission into the company of externally washed and brushed, but foul-mouthed children of the public schools. Foul-mouthed!—it is not simply a question of the contagious activity of a micro-organism. Carious teeth often generate offensive gases which load the atmosphere of the school room with a brain-and-nerve-depressing stench.

A movement of physicians to secure public action on this matter will at once exert a moral force toward a physical abatement of this evil. Mothers will be more watchful and painstaking, to avoid the disgrace of rotten teeth in their children's mouths. Children will be moved to take a pride in spotless teeth; and in this age to acquire an ambition to have anything white and spotless about the person is commendable.

School life and conditions regarding caries are at their worst in our great cities, and require the most urgent amendment.

The position of a medical supervisor or examiner in our public schools would not be a sinecure. There would be work for him to do every day. Just how far he should be armed with authority, might be variously decided by different school boards. In general, it may be premised that his care and attention to any individual pupil should end where such pupils' physical condition ceased to be a threat or an offense to the health of his fellows. The medical supervisor would naturally become an active centre of a system of school hygiene. His acts would be criticised and his orders be regarded with jealousy by the family physician occasionally, if he undertakes too wide a sphere of authority. But the family doctor makes no fees out of the teeth. In his ordinary professional capacity, he will not even command the gratitude of his patrons by calling upon the children to look after their teeth.

Perhaps it may be discouraging to remember that many savage peoples have good teeth, and are yet without the ministrations of either tooth brushes or dentists. The American aborigines were accustomed to wear their teeth well down to their sockets in the jaw in hard service without the interference of caries. When young, this were not brought up in public schools, and their spare diet or alternate feasts and fasts preserved thier digestive organs and general health. Our conditions are different. There are multiplied points of weakness and attack. We must meet the situation by increased vigilance and effort to correct the evils of over-crowding, over-feeding, and contagion. If we are to properly round out and to supply the needs of our wonderful school system, we must make further determined efforts for a practical hygiene and therapeusis of the mouth among all of the pupils.

The Use of Gelatin Enemata in Intestinal Hemorrhage of the Newly Born.—GUTTMAN, in the *Presse Médicale Belge*, January 14, 1900, (quoted in *Gazette des Hopitaux*, January 18, 1900), reports a case of severe intestinal hemorrhage, in whicn he succeeded in arresting the bleeding by means of enemata of a solution of gelatin. The bleeding point was low in the bowel, as the blood was bright red in color. He dissolved three leaves of gelatin in a quarter of a litre of hot water. One-half of this solution he used as an enema, and the rest he administered *per os* in teaspoonful doses. The result was that the bleeding stopped, and the child only had one more bloody stool after the enema. On the following day the feces were normal, and the child recovered.

FRACTURE OF THE UPPER THIRD OF THE LEFT FEMUR IN AN INFANT.

By Robert T. Gillmore, M.D.,
Chicago.

ON the 27th of May, 1899, I had a fracture of the upper third of the left femur of an infant; the fracture occurred during the rapid extraction of the breech with the blunt hook. The condition of both the mother and the child demanded immediate delivery. Within an hour or two after the fracture, the injured limb was put up in a plaster of Paris cast, at right angles to the body, and suspended by a pulley from the ceiling, with a weight of one and a half pounds to overcome the muscular rigidity. This dressing proved unsatisfactory, as it was impossible to make needful changes in the child's toilet, without disturbing fragments of the bone. It was also exceedingiy difficult for the mother to nurse the child. The fifth day after the fracture, an examination was made, with Dr. T. J. Watkins as consultant. He suggested that an X-ray of the leg might be of advantage, in order that we might find out the exact extent of the injury. At this time there was considerable swelling at the seat of the fracture, and a marked degree of rigidity in the hip joint. Eight days after the injury, the negative or the X-ray demonstrated an uncomplicated fracture of the femur. On communicating the result to Dr. Watkins, he suggested that I call a specialist. Accordingly, on the following day, Dr. L. L. McArthur saw the case in his office. He advised Buck's extension apparatus, with adhesive plaster fastened to the skin slightly above the seat of the fracture, with vertical suspension from the ceiling, and sufficient weight to raise the buttocks from the bed until the fracture had been reduced and muscular rigidity overcome. At the end of that time, probably on the third or fourth day, he thought it would be advisable to put the leg in a plaster cast. That night the apparatus which I show was constructed at my suggestion, and the adhesive straps, with two pounds' extension, applied to the limb. Three days later, Dr.

McArthur called at the house. The length of the limb had been restored, and the fracture reduced. He suggested a posterior splint, from heel to nates, two lateral splints around the femur, and a thick pad placed over the fragments. The Doctor did not consider the cast indicated. He was good enough to praise the improvised bed I had devised, and suggested that it be exhibited before the Chicago Medical Society. The child rested comfortably in the box for over two weeks. It could be removed on either side of the mother for nursing at will. It could be taken from room to room, and washed, and dressed, without the least fear of disturbing the fragments of the broken bone. Fourteen days after the posterior and lateral splints had been applied, and seven days after the child had been put in the apparatus, the splint was removed. Union was complete, and the result was as ideal in every way as could have been desired.

Treatment of Constipation in Children.—Sevestre gives the following decoction to combat constipation in children:—

℞	Boiling water,	200.0	grammes
	Manna	30.0	"
	Senna Leaves	4.0	"
	Roasted Coffee in Powder	10.0	"

Strain. Take during the day.—*Gaz. des Hopitaux*, Jan. 18, 1900.

EDITORIAL COMMENTS.

Expectoration in the Streets Our readers will remember a recent article in PEDIATRICS, by A. Jacobi, on Typhoid Fever, in which the author mentions a typhoid epidemic among the street children of a North African town. The infection was discovered to have been due to surface sewage, the uncleanly habits of the children readily causing their hands, playthings and food (the last often eaten upon the street) to become soiled. There can be little doubt that even in the relatively well-paved cities of Europe and America, many "mysterious" cases of diphtheria, whooping cough and the other infections can be attributed to the same general cause, infectious matter upon the sidewalks. The great source of this is, of course, expectoration. In respect of tuberculosis it may be urged that sunlight quite promptly kills the germ. Not denying the accuracy of laboratory experiments upon this point, we must yet remember that in narrow streets, walled in by high buildings, there are many blocks of sidewalks where the sun never shines; moreover during the winter months in many parts of England and New England, fogs and clouds obscure the sun for days in succession, giving ample time for infectious matter to dry and be spread by the howling winds in every direction. It does not, therefore seem to be more than ordinarily rational that the movement to prohibit spitting in street-cars and other enclosed places used by the general public, should be followed by a campaign of education against useless spitting everywhere, in-doors or out. While legislation can hardly be asked for in such a matter, it is not beyond hope that the public may finally be brought to realize, not only the indecorum of such conduct, but its grave dangers. Consequently, it is with no little interest and pleasure that we read the following resolution (printed in a recent issue of the *Progrès Médical*), which is shortly to be submitted to the Municipal Council of Paris: "Whereas, expectoration in the public highways is one of the most active agents in the propagation of tuberculosis and other contagious maladies; and whereas a reform in the matter of expectoration would greatly promote the cleanliness and decency of our streets and promenades: Resolved, That enameled signs, large enough to be legible from a distance, shall be placed in the principal streets of Paris, and in places of assemblage. The signs shall read as follows: 'In the interests of the public, and to avoid the propagation of contagious diseases, it is requested not to spit upon the sidewalk.'" B.

Tuberculosis of the Tonsils

Marcel Labbé and Ch. Levi-Sirugue, in *Gazette des Hopiteaux* (February 17, 1900), treat this subject at length, in a very complete and successful manner. Tuberculosis of the tonsil is somewhat rare, and like tuberculosis of the lymphatic glands seems to be a rather benign form of this disease. It is both primary and secondary. Secondary tuberculosis of the tonsil occurs quite frequently in adults afflicted with tuberculosis of the lungs. That children with phthisis are not more frequently attacked is due to the fact that they swallow their sputum before it comes in contact with the tonsil glands. The several ways in which secondary tonsillar tuberculosis may occur are: from sputum, as above mentioned; perhaps from a reverse current in the lymphatics, from the cervical or bronchial lymph nodes; and lastly, through the blood vessels in cases of miliary tuberculosis. While secondary tuberculosis of the tonsil is not very infrequent, the primary affection is decidedly rare. The fact that inoculation of excised tonsils into guinea pigs produces tuberculosis in a fair proportion of cases is not conclusive, as it has been shown that the tonsil may arrest tubercle bacilli, without being infected by them. Nor is the presence of giant cells alone sufficient. Innoculation experiments must always be checked by histological examination. Scheibner, in twenty-eight operations for hypertrophied tonsils, in patients otherwise healthy, found tuberculosis in two instances. Brindel found tuberculosis eight times in sixty-four cases of adenoid vegetations. Others have reported similar instances of undoubted primary tonsilar tuberculosis. Tuberculosis of the cervical glands which are directly connected with enlarged tonsils might aid in making a clinical diagnosis of primary tuberculosis of the tonsil. The tonsil in these cases, serves as a point of entrance for Koch's bacilli. Hence, in operations for tubercular cervical glands, it might be well to remove hypertrophied tonsils also, lest they be the starting point of a new infection. According to some, tuberculosis of the tonsil may even give rise to tuberculosis of the cervical vertebræ, tubercular meningitis, and so forth. Infection most frequently comes from the air. It may also come from infected food. This latter mode of infection is said to have been experimentally proven in animals. However, tuberculosis of the tonsils is rare, as compared with simple hypertrophy. While a few cases of enlarged tonsils are due directly to tuberculosis, it is likely that in many cases the bacilli find favorable conditions for growth and development in organs already hypertrophied. T.

Disinfection After Measles

In many cities of America the Boards of Health lay so little stress on requiring physicians to report cases of measles that this duty of the medical attendant is often entirely neglected. In speaking on this subject before the Académie de Médicine, M. Valin said that the infectious disease which at this time has the greatest mortality in Paris is not diphtheria nor typhoid fever, but measles. While other infectious diseases are decreasing in both frequency and virulence from year to year, measles is on the increase. This, he attributes to the fact that measles is not there included among the infectious diseases which must be reported to the health authorities, and after which disinfection is required. Many physicians hold that disinfection is quite useless after measles. M. Valin says that even if disinfection is useless, a fact which has not been established, it will at least serve to kill germs, such as the staphylococcus, pneumococcus, etc., the association of which with the microbe of measles, causes such fatal complications. It also serves to keep the public from getting the idea that no precautions need to be taken against this disease. T.

BOOK REVIEWS

CLINICAL LESSONS IN ORTHOPÆDIC SURGERY. By ROYAL WHITMAN, M.D., Instructor in Orthopædics at the College of Physicians and Surgeons of Columbia University. Edited by GEORGE ALEXANDER SAXE, M.D., and ABRAHAM L. WOLBARST, M.D. A 12mo of 187 pp., with 51 illustrations. New York, James T. Dougherty, Publisher, 411 West 59th Street, 1900. Price: cloth, interleaved for notes, $1.50 net.

This book was primarily intended for the author's students, and in fact was based upon a series of notes taken by the editors at Dr. Whitman's lectures and clinical demonstrations, as well as upon memoranda furnished by the author himself. A final revision was made by Dr. Whitman. We think, however, that it is destined for a wider field of usefulness, inasmuch as it supplies a hitherto unfilled want of the student and the general practitioner for a condensed manual of orthopædics. Medium-sized condensed textbooks, which give the pith of the subject, are the great desideratum of the modern student and of the general practitioner, who wants to be well informed on the special branches without encroaching on the field of the specialist. Medical students now have so many subjects to study, that they cannot wade through a voluminous treatise on orthopædics; and yet there was no satisfactory condensed textbook on the subject until the appearance of the present volume.

It is really astonishing how much has been put into the space of this book. The text is concise, and yet the style is flowing and graceful. The arrangement of the topics is very systematic, and the selection of those which are considered at greater length is judicious, such subjects as Pott's disease and tuberculosis of the joints being given special prominence. The book covers the entire range of orthopædics, as usually taught in our colleges. It treats the subject primarily from the clinical standpoint, but the relations of cause and effect in deformities are constantly emphasized, and the student is encouraged to think for himself by means of a series of suggestive questions placed in foot-notes which refer to the text. In the sections on treatment, the practitioner will find a reliable guide to the management of his orthopædic cases. They are full enough for all but the specialist.

A very complete bibliography of the subject, and a glossary of terms used in orthopædics, is appended.

The book shows unmistakable evidences of great care in its make-up. It is well printed, and illustrated by a number of photographs of cases.

We understand that permission to translate this book into Italian has been applied for, the translation to be published in Italy.

SOCIETY REPORTS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting February 8, 1900.

THOS. S. SOUTHWORTH, M.D., Chairman.

High Fever from Swallowing Fluff from a Blanket.—Dr. LA FETRA exhibited the result of several successive irrigations of the colon of a child seventeen months old. On February 4th, the child had been taken suddenly ill, as indicated by a temperature of 104° F. Examination had failed to reveal anything but the eruption of four incisor teeth. On the afternoon of the first day the child had had a convulsion, and he had seen the child about one hour afterward. It had just had a movement from the bowel, and in the stool was something looking like absorbent cotton. On careful inquiry the mother stated that the child had been accustomed for some time past to pick the fluff off its crib-blanket. A considerable quantity of this material had been removed by irrigation of the colon, and the temperature was now only 100.4° F.

The Treatment of Whooping-Cough without Drugs.—Dr. N. R. NORTON read the first paper on whooping cough. The object of the paper was to put forward two unusual methods of treating whooping cough, viz.: (1) With injections of carbonic acid gas in the rectum; and (2) the use of the O'Dwyer intubation tube. In 1887 the first method had been first brought forward by Bergeons, and in 1897, Dr. Achilles Rose, of this city, had requested a trial of this method of treatment at the New York Foundling Hospital. The treatment had been given to all the children three times daily, and had varied in duration according to the age of the patient, from five to ten minutes. A series of 150 cases had been treated in this manner. Of these, 143 had been apparently decidedly benefited. Even in the severe cases, the vomiting had diminished, or ceased, by the second or third day. The duration of the disease had not been influenced by this treatment. During the administration of the gas, the entire cutaneous surface would flush, especially the face. In a few cases, a mild diarrhea had been set up, apparently as the result of irritation of the rectum by the injection tube. In the following year a series of twenty cases had been treated by the gas in the same manner, and apparently with negative result in all. The only difference in the treatment had been that in the latter series gas had been taken from the tanks in which it had been compressed.

The other method of treatment—namely by the intubation tube—had been suggested by Dr. O'Dwyer, shortly before his death. O'Dwyer said that the fear which children suffering from whooping cough experienced, was not the dread of the cough or of the vomiting, but of the torture resulting from prolonged spasm of the glottis. In the adult there was added to this suffering, the fear of impending death, a fear which could not be shaken off. He held that by intubation one could absolutely relieve this spasm of the glottis, and as this was the chief and most important feature of whooping cough, it seemed reasonable to try this method, taking the precaution to use the hard rubber intubation tube to avoid irritation of the larynx. Dr. Norton said that while at the Foundling Hospital a child suffering from pertussis had developed laryngeal diphtheria, necessitating intubation. The spasm of the glottis had been held in check while the tube was in position, though after its removal the disease had run its usual course.

Some Remarks on Whooping Cough as Seen in Dispensary Practice.—Dr. WALTER A. DUNCKEL presented a paper, the result of observations made by him on 261 cases treated at the New York Dispensary. Fifty-five per cent. of these cases had been seen in the summer months, and in December and January; 60 per cent. occurred in females. Complications had been noted in 25.6 per cent., bronchitis being included in this reckoning, if sufficient to give rise to physical signs. Forty-six per cent. of the complications had occurred in the months of January, July and August, from which it seemed fair to assume an increased liability to complications from whooping cough during these months of the year. Diarrhea had been observed almostentirely during the hot season. Wasting had been noticed in eight cases. Only one of the children had convulsions, and these had been due to the onset of pneumonia. As a rule, broncho-pneumonia had been a late complication. In five cases relapse or recrudescence of the whooping cough had been observed. The speaker commented upon the fact that tuberculosis did not occur more frequently in whooping cough, and suggested that the severe cough might possibly be unfavorable to the lodgment of the tubercle bacilli. Not one of the cases had had an endocardial murmur, or any other symptom of cardiac enlargement.

Treatment:—Belladonna has been preferred to other drugs. and had seemed to control the spasm in a few instances. Antipyrin, in doses of two grains, combined with potassium bromide in doses of four grains, had been prescribed in a few cases, but had been discontinued because the result had been negative from these moderate doses, and it had not seemed wise to prescribe larger ones for dispensary patients. The chief reliance had been on the use of belladonna, and malt and cod liver oil preparations.

Comparative Drug Values as Observed in the Treatment of 752 Cases of Whooping Cough.—Dr. CHARLES G. KERLEY read this paper. As the cases had developed, they had been separated into groups of twenty, and were allowed to cough without treatment until the height of the paroxysmal stage had been reached, which usually required from ten to fourteen days. Careful records had been kept of most cases both night and day. The ages of the patients treated varied between six weeks and twenty-six years. Three patients only had reached adult life. Five-sixths of the patients had been under four years of age, and one-half under two years of age. The duration of the attack had ranged from three to twenty weeks, the usual duration having been between six and eight weeks. He had found that the very young and the very delicate often did not whoop during a severe attack of whooping cough. The drug treatment consisted of insufflation, internal administrations and inhalations. Resorcin and boric acid, combined with bicarbonate of soda, were used by means of insufflations in six institution cases, but had been discontinued after three days because the treatment had been impracticable and useless. Vapo-cresoline had been tried with absolutely no result. He had allowed it to be used in a number of cases in private practice, because it quieted the nervous parents, and did the child no harm. Alum, fluid extract of horse-chestnut leaves, dilute nitric acid, cocaine, bromoform, bromides, belladonna and antipyrin had all been tried. The first three had been used, and been found valueless. Alum had appeared to be of some service, but had been badly borne by the stomach. Bromoform had proved very unreliable. Cocaine in doses of one-tenth of a grain every four hours for a child of two years had been employed in about twenty-five cases. It had controlled the severity of the paroxysms somewhat, but not sufficiently to warrant its continuance. He had found great benefit from quinine if a large amount could be given. It was difficult to give from twelve to twenty grains of this drug daily, as required. When quinine could be given in capsules, the number and severity of the paroxysms would be remarkably controlled—sometimes the number being diminished one-third to one-half. He had used belladonna in sixty institution cases, administering it up the physiological effect; this had required from five to seven days. He had not observed from this any influence in a single case. True, the cases upon which it had been used were very severe, but they had yielded to other means. The children had been from six to seven years of age. Equal parts of bromide of sodium, ammonium, and potassium had been tried in sixty institution cases, using from twelve to sixteen grains daily for a child of one year. The results from this treatment were better than those previously mentioned. Antipyrin had been used in sixty institution cases, and he had found that it had controlled the paroxysms better than any other drug he had employed, and caused only a trifling depression if administered with ordinary care. The combination of the bromide with antipyrin had been used in sixty cases, with better results than from using either one of these drugs independently. For a child of eight months, half a grain of antipyrin, and two grains of sodium bromide should be given every two hours for six doses, and then its administration should be discontinued for a period of twelve hours. For a child between two and a half and four years of age, two grains of antipyrin and three or four grains of bromide should be given every two hours for twelve hours, and then discontinued for twelve hours before being resumed. The steam spray and fresh air were also useful adjuncts to the drug treatment of whooping cough. A child suffering from whooping cough should be frequently changed from one room to another, and the best possible ventilation secured. The author's conclusions were: (1) Every case of whooping cough may be relieved, either by modifying the severity, or diminishing the number of the paroxysms; (2) the duration of disease is probably not shortened by treatment; (3) remedies sedative in character, with fresh air, give the best results; (4) if the remedy is to be of service, its beneficial results may be noticed within twenty-four to forty-eight hours; (5) the best results are obtained when antipyrin and the bromides are commenced at the height of the paroxysmal stage and then pushed vigorously; (6) being sedative in character, the good effects may be lost in a prolonged case; and (7) children may have whooping cough and never whoop.

Dr. S. H. DESSAU opened the discussion on the foregoing papers. He stated that most persons would accept the statement that pertussis is an infectious disease, due to a specific germ, and that the best results from treatment would be secured by therapeutics directed along those lines. He had adopted this general plan for the last twenty years. At first, he had made use of chloral quite extensively. It was a most excellent internal antiseptic, in addition to its excellent sedative effect. He had used it for many years in combination with bromide, and had then discontinued it because of its nauseous taste, and because antipyrin had then been available. The great advantage of antipyrin was that it was soluble and antiseptic. Phenacetin had the same effect, but being insoluble, it must be given in the form of a powder, which was not desirable in very young children. Cresoline, and similar preparations were useful, probably because of their antiseptic property. One of the latest candidates for favor was an antiseptic named difluordiphenol, which is to be used as an ointment rubbed into the skin. The dose is one or two drachms once daily. The author of this treatment claims excellent results in one or two days, and a complete cure in the course of two weeks. The speaker said that the pathological effect of the poison of whooping cough was manifested on the nervous and lymphatic systems. There was no doubt that the lymphatic glands at the root of the lungs were enlarged; at one time, the theory had been advanced that the paroxysmal cough of pertussis was the result of the pressure on the recurrent laryngeal nerve produced by the enlargement of the lymphatic glands. He had recently met with two cases, in which the clinical picture was that of whooping cough, and yet he had reason to believe that the affection was solely the result of enlargement of these lymphatic glands. It was this class of cases that the Germans were so fond of "curing" by a mixture of iodide of potassium and belladonna.

Dr. G. M. SWIFT said that many years ago, while in the Foundling Hospital, he had been impressed with the fact that after the active symptoms had subsided, whooping cough did not cease. Months afterward he had observed secondary results, such as an enlargement and degeneration of the mediastinal lymph glands. These observations had led him to regard whooping cough as a serious malady. His object in treatment was to keep the children as far as possible in the fresh air, or in air impregnated with formalin. A 25 per cent. solution of formalin is kept in a vessel in a room, and it vaporizes slowly in the air. In a few cases this had seemed to him to have a beneficial effect. Although he had seen the benefit from the coal-tar preparations, he had a strong prejudice against them because of their deleterious effects on the blood. He had obtained good results from both codein and heroin, particularly the latter.

Dr. JAMES J. WALSH said that in certain mining districts of Pennsylvania, it was a tradition that children suffering from whooping cough, improved when carried into the mines. Old practitioners in these regions were apt to share in this view. Personally he believed that some of the benefit was due to the journey in the fresh air to reach the mine. Second attacks of whooping cough were extremely rare. He would say, in this connection, that a friend in Philadelphia had recently tried the experiment of injecting, in five cases of whooping cough, the serum obtained from the blood of healthy persons, who had whooping cough twenty years or more ago. In all of these cases, there had been improvement noted, and in three the whooping cough had stopped almost immediately.

Dr. HERMAN said that in the Good Samaritan Dispensary, the best results had been secured from a mixture, containing, for a child of two years, two grains of antipyrin, one minim of tincture of digitalis, and four minims of camphorated tincture of opium. He had heroin at the Mount Sinai Dispensary in about twenty cases, but the result had not been good. In a number of cases, for purposes of comparison, antipyrin had been used first, and subsequently heroin, but the latter with less satisfactory result. On resuming the antipyrin, the same control of the paroxysm had been noted that had existed before the use of the heroin.

Dr. WALTER LESTER CARR thought the most satistactory results had followed the use of antipyrin. Heroin had not replaced codein in his practice. He had found heroin disappointing and an uncertain drug. Codein and antipyrin made an excellent combination for whooping cough. In children who were intensely nervous and irritable, the bromides would be found very useful, but he had not found that they always lessened the number of paroxysms in severe cases of pertussis. For a long time he had used belladonna, and had secured quite satisfactory results from it, but he believed it did the most good in those cases in which the mucous membrane was greatly engorged, and there was a free secretion. Quinine was a useful tonic for those children who could take it. He had made use of the carbonic acid gas treatment in cases of pulmonary tuberculosis, and had found it so unsatisfactory, that he had not been inclined to try it in whooping cough. Hardly too much emphasis could be laid upon the great benefit to be derived from an abundance of fresh air. Undoubtedly in prolonged cases, the mucous membrane underwent thickening, and the structure of the bronchial tubes became markedly altered. He would caution against dismissing these cases from treatment, as simple prolongations of the pertussis, as there might be serious disease of the lungs present. In some instances of this kind, the cough would disappear by spraying with menthol dissolved in benzoinol.

Dr. H. W. BERG contrasted the obstinacy of epilepsy and pertussis under treatment, and called attention to the fact that in pertussis there was a convulsion of the nerve centres giving rise to cough. Whooping cough is a convulsive paroxysm of the nerves entering into the disordered function of coughing, and for this reason it was not surprising that some physicians had secured good results in the treatment of pertussis by pushing the administration of the bromide up to the full physiological effect. In whooping cough there was always a source of irritation to be found in the presence of the viscid mucus in the finer air tubes. The attempt to expel this resulted in the development of a paroxysm. Our therapeutics should be directed toward diminishing the production of this glairy mucus. For this purpose he had used comparatively large doses of the bichloride of mercury, having been led to use it, because, in a child suffering both from whooping cough and membranous croup, the whooping cough had been almost cured during the treatment of the croup. His plan was to give to a child of two years $1/60$ of a grain of bichloride of mercury every three hours until the bowels became loose, and then to suspend it until the stools were no longer relaxed. Under this treatment he had found it unnecessary to treat most cases of whooping cough in private practice for more than two or three weeks, and had noted a comparative immunity from complications. Undoubtedly fresh air was most useful in the treatment of whooping cough, but physicians should should be cautious about allowing ignorant mothers to take out children suffering from whooping cough during bad weather.

Dr. Norton said that he did not wish to be considered as enthusiastic regarding the carbonic acid gas treatment of whooping cough, but he would say that in individual cases the paroxysm had become worse when the gas had been suspended, and had again lessened in severity on resuming the gas treatment.

Dr. Kerley said that it would require a stretch of imagination to attribute the good effects of antipyrin in whooping cough to its antiseptic action; it was more rational, he thought, to attribute this beneficial effect to a specific action on the terminal nerve endings. He was accustomed to treat idiopathic croup as he did pertussis, except that he added ipecac. He had found this combination exceedingly useful, so much so that if the treatment was instituted early, and pushed vigorously, it would be often unnecessary to resort to emesis at all. He had never had any success from heroin in other coughs, and had not found it as useful as codein. He had not employed it, however, in whooping cough.

ABSTRACTS

A CASE OF GLIOMA RETINÆ AND BRAIN METASTASES IN A CHILD, WITH AUTOPSY.

Dr. F. M. Wilson, Bridgeport, Conn., and Dr. Edgar S. Thompson, New York (*Arch. of Ophthalmogy*, Vol. xxix., 1, 1900), report the following:—

Albert M. L——, age four (Aug. 24, 1898.) Small, badly nourished, but somewhat precocious child. Father and mother healthy. Three other children healthy. His eye has "been bad" for four weeks, but they have suspected that something was wrong with it for two months. Child has lost flesh, has nosebleed, throws up its food, is very fretful, and stays in bed most of the time.

Right eye has ciliary injection; dilated pupil. Tension + 1. *Gray* appearance back of lens, with a fissure running through it. It looks like detached retina covered with exudation. Boy has some pain in right eye all the time. Left eye normal. Enucleation advised and declined.

Dec. 22, 1898.—Have seen him occasionally since August, as have other oculists, with universal advice for enucleation.

Right eye has now beginning anterior staphyloma. The iris and lens are pressed forward against the cornea; the lens is opaque. The general condition of the child is not much changed. Left eye normal.

Dec. 26th.—The right eye was enucleated at the Bridgeport Hospital. The enucleation was easy. The globe was not ruptured. There was no gliomatous mass in the orbit. Four days later, child was taken ill with scarlet fever, and was quarantined for three weeks. Was not very sick. The orbital wound healed kindly.

I did not see him again until March 1, 1899. His parents said that for a month after leaving the hospital he gained in flesh, played with the other children, and had no pain whatever. Then pain returned in the right orbit, he lost what flesh he had gained, began to throw up his food again, and to stay in bed. A nodular mass can be distinctly felt in the orbit. Under ether, mass was found to fill posterior half of orbit. Evisceration of orbit was advised and done. For two weeks after the operation he was free from pain and nausea, but did not gain strength.

On March 15, 1899, sight began to fail in left eye, and within two or three days failed entirely, there being no P. L. Pupil was moderately dilated and immobile. No gross changes in fundus.

On March 28, 1899, he had a profuse discharge of a thin fluid from the nose, but his mother, the only person who saw it, does not give a very intelligent account of its appearance or amount. Immediately after this discharge of fluid, the left pupil regained its normal size, but was again dilated within six hours.

April 1, 1899.—5 p.m. he died.

Autopsy at 10 p.m., five hours later. Dura mater firmly adherent to vertex. Blood-vessels on surface of cerebrum engorged with blood, Very abundant thin fluid, with flocculi in it at base of brain. Base and sides of brain studded with round nodules of tissue, which presented the same macroscopic appearance as the tissue which was taken from the orbit. The chiasm was enclosed in a clot of blood, occupying an area of 1¼ inches in diameter, and about ¼ in. thick at its thickest part. From the right orbit an irregularly shaped mass projected into the crainial cavity, lapping over on the cribiform plate.

The membranes of the base were soaked and softened. Most nodules were entirely distinct, with no apparent connection between them, and were evidently metastatic. The left optic nerve, except for a distended sheath, looked normal. Examination of other parts of the body not allowed.

The eye, which measured 24 mm. in length, was sectioned horizontally, and showed the following points: lens opaque, pupil widely dilated, anterior chamber obliterated, ciliary body atrophied, retina totally detached in "funnel" shape, and closely applied to posterior surface of lens; vitreous absent, a large mass of new growth near the posterior pole involving the nerve and almost filling the posterior half of the vitreous chamber, the remainder of which is filled with a greenish, sero-fibrinous fluid.

Microscopic section shows all the above conditions in detail. The mass is composed of round cells, with large nuclei, embedded in a scanty intercellular substance. It springs from the retina somewhere near the nerve, and has pushed outwardly, causing an early detachment of the retina. There are numerous clusters of round cells near the ciliary region and scattered areas through the serous affecfion. The choroid is infiltrated posteriorly and enormously distended, so that the tapetum nigrum runs through the middle of the mass. There are no traces of choroidal tissue to the outer part of the mass. There are numerous newly formed blood-vessels all through the tumor, and in the older part (i.e., retina), there are large areas of necrosis with hemorrhages. The optic nerve is infiltrated with round cells, and the subdural and sub-arachnoid lymph spaces are also full of cells. There are a few indications of the growth along the blood-vessels which perforate the sclera.

FOREIGN BODIES IN THE GASTRO-INTESTINAL TRACT, PARTICULARLY IN THE ŒSOPHAGUS.

Bilhautin (*La Revue Médicale*, Dec. 27th, 1890), reports three cases of foreign bodies in the œsophagus, which were first detected by means of the Rœntgen rays. Pean was the first to detect a coin in the œsophagus of a child by means of the X-ray. The first case reported by Bilhaut is somewhat analogous to that of Pean. The child had swallowed a sou, which was found in the stomach on radioscopic examination. Operation was contra-indicated, and a purgative brought out the foreign body on the following day. In the second case the sou was lodged in the œsophagus, at about the level of the first rings of the trachea, as the fluoroscope distinctly showed. The writer introduced Græfe's extractor, guided by the fluoroscopic image, but only succeeded in pushing the instrument down into the stomach, preceded by the coin. The next day a purgative was administered, and the coin was passed, without the slightest trouble, at the end of twelve hours. In the third case the coin was situated in the œsophagus at the level of the sterno-clavicular articulation. The child was placed behind the fluorescent screen, and was held firmly by two assistants. The writer introduced the extractor, passed it below the level of the coin, and gently drew it out, carrying the coin with it, until the foreign body was extracted. The writer believes that he was the first to practice extraction of foreign bodies, under the guidance of a fluoroscopic image. The advantages of this method are apparent. He also emphasized the fact that, once in the stomach, there is no danger from a swallowed coin, and no necessity for any other measure than the use of a mild purgative.

A CASE OF VERY ACUTE DIABETES IN A BOY AGED FIVE YEARS.

Dr. W. A. Milligan gives the history of this case in the *Lancet* (Dec. 25, 1899). Any sudden insistence on an antidiabetic diet seems to predispose these cases towards coma. On admission, the boy was very weak and wasted, and complained of an intense thirst. He was very restless, and his respiration was 40 per minute. Pulse 140, temperature 97.4° F. Tongue coated, but breath had distinct, sweet smell. Ten days before admission the patient was very constipated, and received enemata which relieved the trouble. Five days later, there was severe vomiting and great thirst. During the next three days, these symptoms got steadily worse, and the boy lost flesh rapidly. Two nights before admission he had incontinence of urine. On admission, the urine contained a considerable quantity of sugar, and some albumin. Codeine pills, and an antidiabetic diet were prescribed, but the temperature continued subnormal, the pulse and respirations increased in frequency, until the patient becamc comatose. He died after a few hours of coma. The writer states that the case was remarkable for its extreme acuteness. Incontinence of urine, when it occurs suddenly, is a symptom which should make us suspect diabetes. The occurrence of albumin with sugar is a bad prognostic sign. Heredity plays no part in this case. The peculiar sweet smell of the breath is a sign of impending coma.

THE ADMINISTRATION OF MEDICINES BY THE NASAL CAVITIES, AND THE FEEDING OF PATIENTS BY THE SAME METHOD.

Salomon, in *Progrès Médical* (Jan. 13th, 1900). The writer states that he has used this method in his practice for twenty years, in cases where it was impossible to use the stomach tube without violence. His method simply consists in pouring the medicine, or food, in solution, directly into the patient's nostrils. The patient is placed on his back, the head is bent backward, and held in this position, if necessary. It is useful, in some cases, to swab out the nostrils with a weak solution of cocaine. One nostril is then plugged with cotton, and the liquid poured into the other by means of a spoon. One must be careful to wait for the beginning of an inspiration, and to pour just at the moment when it begins. There is never any asphyxia, as the fluid drops down directly into the pharynx, and never into larynx. The procedure is indicated whenever other means of artificial feeding are insufficient, difficult of performance, or dangerous. It is especially valuable in the country, where no other paraphernalia are at hand, The only objection to it is that it is slow, but this may be compensated by the concentration of the food used.

DIPHTHERIA OF THE VULVA.

Dr. E. E. Ware (*Lancet*, 1900, i, 392) reports the following case: A girl, aged 4 years, was admitted into St. Mary's Hospital for Sick Children, Plaistow, E., on January 26, 1899, with the following symptoms: During the five days preceding admission the patient had suffered great pain on passing urine, the act sometimes taking a quarter of an hour owing to frequent involuntary stoppages. She had not seemed to be as well as usual, she had lost her appetite, and had been listless. She had had no previous illness. The patient was a well nourished child. The temperature on admission was 100° F., the pulse was 120, and the respirations were 28. On examination of the vulva there was seen to be undue redness of the parts which were evidently very tender. The urine was acid; its specific gravity was 1015, and it contained no albumin, pus, or blood. The act of micturition was very painful, the patient screaming while passing urine, but the pain did not continue after the act.

On January 29th the A.C.E. mixture was administered and the bladder was examined, both with the sound and bimanually, the forefinger of the right hand in the rectum and the left hand on the abdomen, but the result was negative. It was then noticed that two circular white patches were present on the vulva, one on the vestibule and the other on the right nympha, each being about ⅛ inch in diameter; they were considered to resemble diphtheritic membrane, and accordingly a blood-serum tube was inoculated. There was no affection of the throat or eyes. As typical Klebs-Loeffler bacilli in pure culture were present on the blood-serum, the patient on January 30th was injected with 2000 units of antidiphtheritic serum. On February 1st the membrane had disappeared and the redness of the vulva was less marked; there was very little pain on micturition. The temperature was 98° F. and the pulse was 120. On the 8th, micturition was quite painless and the vulva was perfectly normal in appearance, but the patient was still very listless. On the 19th the temperature rose to 102.8° F., the pulse was 150, and the child vomited. A hypodermic injection of three minims of liquor strychninæ hydrochloratis was given. Nasal regurgitation of fluids on drinking was noticed. By the 21st her general condition had improved. The nasal regurgitation occurred only occasionally. The temperature was 99°, and the pulse was 120. From this time recovery was uninterrupted, and on February 25th, fluid no longer regurgitated through the nose. On March 11th the patient was sent to the convalescent home at Southend.

REPORT OF A RECOVERY FROM TRAUMATIC TETANUS.

L. B. Van Camp, in the *Journal of the American Medical Association* (Feb. 3rd, 1900), reports a case of traumatic tetanus, which recovered under the use of tetanus antitoxin. The patient was a farmer's boy, aged fifteen years, who had received a cut with a corn knife between the first and second toes of his right foot. Eleven days later, at dinner, he found that he could not completely open his jaw. His condition grew worse, and on the fifteenth day he was seized with a chill, followed by violent contractions of the muscles of the back. He fell on his face, and was unable to rise. When he was brought to the hospital, he was having a paroxysm about every five minutes, and even oftener, on the slightest provocation. He was given a warm bath, and was placed in a dark room, where he could be kept quiet. Morphine, hyoscine hydrobromate, and potassium bromide were used to allay the irritability of the system, but without effect. Calomel and salines were administered to combat the constipation. The principal treatment consisted of the injection of tetanus antitoxin. On the first day at the hospital he received 10 cc., and on the second again 10 cc. of the antitoxin. On the third day the paroxysms were not as frequent, nor as severe. On the fourth day after the first injection, there was considerable improvement, and the patient could open his mouth a little. The patient received a third dose of antitoxin. On the fifth day there was still more marked improvement, the paroxysms occurred only two or three times in an hour, and a fourth dose of antitoxin was given, making in all 50 cc. On the sixth day the patient was able to take nourishment by mouth, without the use of the rubber tube. He was discharged cured, on the fifteenth day after the first injection.

"ANTITOXIN RESULTS, AND DIPHTHERIA DEFINITIONS."

A. Rupp writes a paper under this title in the *New York Medical Journal* (January 27th, 1900). The writer dwells on the uncertain and variable results of antitoxin treatment, and criticizes Prof. Biggs, the eminent bacteriologist of the New York Board of Health, for making the statement that in diphtheria we have now a remedy which is satisfactory in all respects, and that the problems concerning this disease are now completely solved. Dr. Rupp emphasizes the unreliability of statistics in general, and insinuates the fallaciousness of diphtheria statistics in particular. He says that the Klebs-Lœffler bacillus "is not the disease diphtheria as we know it to-day." The presence of this bacillus, as is well known, does not always go with the clinical signs of diphtheria. At all events the severity and mortality of diphtheria vary in different epidemics between 1 and 95 per cent., and as a rule, it is a surprisingly mild disease, and not the dreaded scourge that the antitoxin enthusiasts would make us believe. He thinks that the question of diphtheria is by no means solved, and he does not regard the progress made as completely satisfactory.

We would not have noticed this article here, were it not written in a singularly caustic style, which, we think, is entirely out of place in a scientific paper. It shows a lack of that dispassioned standpoint, from which a fair-minded observer looks at every effort in the progress of therapy.

If the author had confined himself to reciting facts and figures to substantiate his views, no one would think of criticizing him; but he displays such intense prejudice in his contempt for antitoxin, for the Klebs-Lœffler bacillus, for the accepted conception of diphtheria, and for its advocates, that we cannot refrain from entering a protest. We think Dr. Rupp is doing just that of which he is accusing the other side,—namely, that he ignores facts and figures which are not in agreement with his own views.

A SUGGESTION FOR TABLET TRITURATE MANUFACTURERS.

Dr. C. J. Proben (*New York Medical Journal*, Feb. 10, 1900) writes as follows: From time immemorial and internationally, red has always been adopted as the danger signal in the lights of locomotives, steamships, trains, etc. Would it not be a good plan for us to adopt a similar rule with regard to tablet triturates, pills, and other solid means of giving drugs? Have the manufacturer at least adopt it for the more narcotic drugs, especially the alkaloids, and color every one of them red. At once a mistake would be recognized by pharmacist, physician and patient, if he received the necessary instructions. Objection may be at once raised that the patient should be unconscious of the character of the drug and should not be unnecessarily alarmed. True, but need we divulge the character of the drug save to say, "Your tablets will be of a red color?" This apprehension is really meagre compared to the numerous mistakes a well-systematized order would eliminate. Such coloring would immediately be conspicuous, and is not in discord with the fact that but few drugs exist of a bright-red color which are worked into tablet-triturate form. Let a leading manufacturer start coloring all the narcotic alkaloid tablet triturates red, and announce the fact, and others will soon follow this innovation. If a law were enacted in this State to compel narcotic alkaloid tablet triturates to be colored red, and to be so dispensed, they would quickly come to us in that condition. While it is simplicity itself, with inconvenience to none, it may in future be the cause of saving many a life. Culpable negligence is an ally of felony, though never put to a test. But one drawback occurs to me—that is, that one of these narcotic drugs is dispensed with some other article, which may discolor it, so as to make our law non-operative. I would suggest that it be coated with a red-colored sugar mass.

TREATMENT OF SEPTIC CONDITIONS IN CHILDREN.

Edwin Rosenthal writes in the *Journal of the American Medical Association* (Feb. 17th, 1900), concerning this interesting complex of pathologic conditions. He suggests the name of "strepto-infection" for the general sepsis due to the streptococci. The infection is always a local one at first, and later becomes general. It may be a primary disease or a complication.

The following are the points about treatment which he suggests: The treatment of the local condition demands our attention first. This is to be dealt with on general surgical principles. The constitutional treatment is of great importance. The writer advocates the early and free use of antistreptococcus serum. The serum must be repeated if the temperature continues to rise, and the doses increased in proportion to the requirements of the case. When the infection is a complication of another disease, e.g., diphtheria, both antitoxins may be used. In puerperal infection, the antistreptococcus serum is of undoubted value. It may be also used as an immunizing agent in doses of 5 cc. before an operation.

FOREIGN PEDIATRIC JOURNALS.

Abstracts of all Original Articles Appearing in Foreign Journals Devoted to Pediatri

REVUE MENSUELLE DES MALADIES DE L'ENFANCE, FEBRUARY, 1900.

I.—**Hypertrophic Dilatation of the Large Intestine in the Child.**—AXEL JOHANNESSEN (Christiania). A review of this article appeared in the editorial column of PEDIATRICS, Vol. ix., p. 286.

II.—**The Care of Children with Chronic Affections in Russia.**—MME. A. SCHABANOFF. Dr. Schabanoff is the chief physician of the Hospital for Children of the Prince of Oldenburg in St. Petersburg, and therefore may be considered an authority on this subject. In this article, which is a report presented at the International Congress for the Care of Children at Budapest in September, 1899, she gives an account of what has been accomplished within recent years in Russia towards the better care of the little sufferers from chronic diseases.

The movement was inaugurated by Rauchfuss in 1883. There are, in a number of the larger cities of the Empire societies, whose purpose it is to collect subscriptions for the establishment and maintenance of special hospitals for invalid children, and of summer homes at the seashore and in the vicinity of mineral springs. In addition there exists at St. Petersburg a society which procures, for the poor children of the secondary schools who are unable to leave the city during the summer, a home and a much needed rest in the country. There the children, whose ages average eleven to thirteen years, have excellent facilities for sea-bathing, gymnastic exercises, etc.

Every year brings an increase in the number of children who are, enjoying the benefits of this system, and every year larger sums are demanded and subscribed by the public. It is difficult to overestimate the good that is being done, and it can be said that, thanks to this system of charity, many children who would otherwise ultimately become burdens on the community develop into useful and industrious citizens.

III.—**Hepatic Lesions in Gastroenteritis of Infants.**—EUGENE TERRIEN. In this article Terrien continues the scholarly essay on this subject which he began in a preceding issue of the *Revue*, and describes the value and significance of hepatic lesions in gastro-enteritis. The nodules which are found in the liver of infants with gastro-enteritis, are composed of embryonal tissue, corresponding to the fetal liver. The author thinks these nodules are intra-vascular, and not intra-parenchymatous, because sections of these nodules show endothelial elements. He also states that the presence of these nodules in the liver of an infant denotes the presence of a pathologic process, and that they are never found in normal infants, even at birth, and hence are not remains of fetal life. The resemblance to the tissues of the fetal liver is only an analogy. Another lesion, of less importance, however, is the alteration in the cells of the parenchyma proper. The most frequent of these is fatty degeneration. This lesion is present in a host of other diseases, and is in reality not as frequent in gastro-enteritis as in other affections. A certain amount of fatty degeneration is, in fact, normally found in the newly-born. In children with gastro-enteritis, however, the presence of fatty degeneration of the liver, especially if accompanied by interstitial changes, is an indication of a pathologic process. The most interesting hepatic lesions of gastro-enteritis are the interstitial changes, inasmuch as they have the most permanent effect upon the future condition of the liver. They seem to precede the fatty changes in the parenchyma, and they give the liver of gastro-enteritis a position among the other forms of infectious liver. They may be said to constitute, so to speak, a miniature cirrhosis. In fact, the lesions of a liver, in a simple enteritis are nearly identical to those due to the infectious diseases, and in a gastro-enteritis, which is complicated with an infectious bronchitis, etc., the lesions are more marked.

Finally, it may be asked, what is the nature of the agent which produces these lesions. Are they due to auto-intoxication, to the cachexia itself, to an infection from the intestine, to an intoxication by poisons due to the action of microbes, or to the putrefactive processes which accompany digestion in a diseased intestine? This question cannot be answered until we understand the bacteriology of gastro-enteritis more fully, and until further research demonstrates the ways in which infection and intoxication travels from the intestine to other parts of the body. Thus the liver in gastro-enteritis does not present any specific lesions characteristic of this disease, but it is analogous to the infectious liver. The occurrence of these lesions in gastro-enteritis is very frequent, much more so than is generally supposed, because the reparative capacity of the liver tissue is very great, and the lesions disappear before they are observed. If the child survives, the process in the liver may terminate by resolution, by a complete restitution to the normal. But this is by no means always the case, and it may be supposed, that, as in the kidney, the infantile lesions of the liver may be a precusor of cirrhosis of the liver in later years. If this be so, then we have a new factor in the etiology of cirrhosis, a disease the causation of which is yet so obscure.

REVUE MENSUELLE DES MALADIES DE L'ENFANCE, MARCH, 1900.

I. **A Contribution to the Study of the Elevated Position of the Scapula.**—By NOVÉ-JOSSERAND AND BRISSON. The writers report a case in which the scapula was situated three centimeters higher on the right side than on the left, This condition was first described by Sprengel in 1891, and is as yet but imperfectly understood, in spite of the large number of cases that have been published within the past few years. The history of the case is as follows: The patient was a girl aged nine. She was born without instrumental interference. The child was always delicate, and is now poorly nourished, but fairly well developed for her age. The deformity was accidentally noticed two years ago. On examination, we find that there is a certain amount of kyphosis (round shoulders), but no scoliosis. The left scapula is in the normal position, although its apex points somewhat backwards, owing to the round shoulders. The right scapula, on the other hand, is considerably higher than normal, the lower angle on this side being 21 cm. from the iliac crest, and on the other side but 18 cm. In addition to the vertical displacement, the scapula has undergone a certain amount of rotation, which had the effect of lowering its outer and upper angle. The spinal border is therefore oblique, and the inferior angle is nearer the median line than normally. The axillary border is nearly horizontal, and the spine, instead of being approximately horizontal, is oblique, pointing downward and outward. A line drawn along the spine of the scapula, and prolonged towards the median line of the body, crosses the spinous process of the first dorsal vertebra, while the left spine is on a level with the second. The upper border of the scapula projects under the trapezius, producing a noticeable deformity of the neck and shoulder. The neck is shorter on the deformed side and the shoulder is somewhat higher. The right scapula is somewhat smaller than the left, probably on account of atrophy. Looking at the child from the front, nothing is seen of the deformity, except the slight elevation beneath the trapezius muscle. The left hip is somewhat prominent. The arms are of equal length and development. The movements of the shoulder joints are free, but the right arm cannot be raised to the full extent, this motion being limited to 145°. The clavicles are of equal length. A slight flattening and atrophy is noted on the right side of the face, and the vertical axis of the face is slightly oblique, the lower end pointing to the right. Electric tests show that the scapular muscles are equally strong on both sides. On radiographic examination, it is found that the elevated scapula is of normal shape, and does not present any new growths.

The above case is a very pure type of the condition described by Sprengel as "Elevated Position of the Scapula." Since Sprengel, numerous cases have been reported, and the writers give a bibliography covering twenty cases of this condition. They find no traces of it in older literature. The purpose of the present article is to determine whether there really exists such a thing as "Sprengel's Disease."

The clinical features of this condition are not complex. It is noticed quite accidentally by the friends or the physician. The beginning of the deformity is usually given at any age between birth and fifteen months. The cases reported average between 1 and 7 years, but one is reported by Schlange where the patient was 30 years old, and another by Kirmisson and Sainton, aged 26. Various writers have given different etiologic factors as the cause of the deformity. In some cases the child was born with its arms hyperextended, in others the deformity was thought to be due to traumatism, or to an abnormal attitude of the child in the cradle, etc. The physical characteristics of the trouble are:—the position of the scapula, and its shape. These have been sufficiently described in the history of the case reported above. As to the alterations in shape, there is usually none of any consequence, but the scapula on the deformed side is usually smaller than its fellow. Of all the cases reported thus far, only one was bilateral, and the majority were on the right side. The spinal column was found to be deformed in one way or another in about half the cases. There is often a slight scoliosis, sometimes curved towards, sometimes away from the elevated scapula. The significance of this lateral curvature in these cases is still obscure. The upper extremity does not suffer much from the deformity of the scapula, as a rule, except, perhaps a slight limitation of the range of abduction. The muscles of the shoulder are not affected, only those on the deformed side are slightly shorter, and perhaps a little bulkier than on the other side. They react perfectly to electric tests on both side. A very striking fact is the facial asymmetry which accompanies a certain number of these cases. The side of the face which corresponds to the elevated scapula is less developed than the other, and Hoffa has even noted a defective development of the corresponding side of the cranium. Such then is the clinical aspect of the trouble. The writers then proceed to review the anatomic and physiologic conditions that surround the scapula. They conclude that the bone is so movable, that it is at the mercy of the surrounding muscles; that its position, therefore, to a certain extent, depends upon the tonicity of these muscles, and that the scapula is influenced by any deformity that may occur in its vicinity. If we blame the muscles for the abnormal position of the scapula, we must show that there is either paralysis, or contracture of these muscles. But such is not the case in this deformity. On the other hand, deformities may occur in the neighboring organs, which will have some influence upon the position of the scapula, for example, in arthritis of the shoulder joint, there is sometimes an elevation of the scapula. But in the cases of Sprengel's deformity there was no arthritis in the joint. Finally the relation between scoliosis and the elevation of the scapula in these cases is by no means so close that one can say that the lateral curvature is responsible for the displacement of the shoulder blade. In fact, scoliosis is absent in about half the cases, and is so slight in many others that it cannot be blamed for the malposition of the scapula. The authors conclude that the elevation of the scapula is a congenital deformity, and that the name "Sprengel's Disease" is justified, to designate this as an independent condition. In speaking of the treatment, the writers mention tho various procedures adopted by other surgeons for the correction of this deformity. Some have used tenotomy of the shortened muscles, trapezius, rhomboids, etc., others resection of the projecting upper angle of the bone, and others, e.g. Kirmisson, adopt the more conservative measures of gymnastics and suspension by the arms. The only object of treatment is a cosmetic one. and the writers think that orthopædic measures, such as Kirmisson's, are the treatment of choice in these cases.

II. A Case of Appendicitis with Unusual Onset—Death After Ten Days.—By Dr. Breton. Breton reports a case of appendicitis which was characterized by an unusual onset. The patient was a girl aged thirteen, who had been suffering from chronic constipation for some time. As a result, the large intestine was appreciably dilated. The onset was marked by repeated attacks of vomiting, and by chills, but there was a complete absence of tenderness on palpation, and the abdominal wall was equally supple everywhere. There was absolutely no pain on deep pressure over McBurney's point. The pulse was normal, 78; the temperature 37.5°C. The only symptom that made the writer suspect that there is more than a simple afebrile gastritis, was the anxious expression of the face, and the sunken look of the eyes. During the following night, there was restlessness, diarrhea, and vomiting, but not the slightest pain in the abdomen. On the following morning, the patient seemed considerably improved, and the facies described above disappeared. The abdomen was perfectly supple, and not sensitive. During the day, the patient continued to improve, and the vomiting ceased. On the following morning the temperature was normal, but the pulse was 108. There is a slight pain on pressure over the symphysis pubis, and the mother attributed this to the first appearance of menstruation. The abdomen is considerably distended, but there is no pain on pressure at any point. Dr. Perruchet, called in consultation at 8 p.m. on that day, found a pulse of 132, a temperature of 39° C. (102.2° F.), and the abdomen still more distended. On palpation there was muscular resistance, more marked on the right side than on the left, and a vague doughy feeling. The patient vomited some greenish mucus, and has had no movement of the bowels, nor any escape of gas for the past twenty-four hours. The diagnosis of appendicitis was made, and the operation fixed for the following day. On the following morning, the pulse was 130; the temperature 38.3° C.; the meteorism has become general, and the pain is localized distinctly in the right inguinal fossa. The muscular resistance is very plainly felt. The painful spot of McBurney now exists; and the face is very anxious; the eyes sunken. The operation was performed on the evening of the same day. Upon opening the abdominal cavity, a large quantity of fetid serous fluid escaped. The appendix itself could not be found, but a cavity filled with this fetid material, and bounded by adhesions on all sides except the upper, was discovered. The operators contented themselves with thoroughly draining this cavity, and with inserting strips of gauze at that point, to provoke adhesions at the upper part of the cavity, so as to protect the the rest of the peritoneum. Although the patient stood the operation well, on the next day she began to get steadily worse, and after four days, the history of which we omit for the sake of brevity, she died under the appearances of septic peritonitis. The question is whether the appendicitis began on the first day of the illness, and was present from the first, without any of the three classical symptoms:—sensitiveness of the abdomen on pressure, pain at McBurney's point, and resistance of the muscles on the right side; or whether the appendicitis can be said to have begun on the third day, when the symptoms began to approach what we would expect in an attack of appendicular inflammation. The author thinks the latter view is the more reasonable. He emphasizes the importance of one symptom which is often overlooked, and without the presence of which he would not have suspected anything worse than an ordinary attack of gastroenteritis,—namely, the pecular drawn (*grippé*) and anxious expression of the face, and the sunken eyes. He believes this symptom merits the attention of clinicians, as a help in the diagnosis of appendicitis.

III. A Case of Perinephritic Extravasation of Urine of Traumatic Origin. Laparotomy. Recovery.—By P. NAYOUD (Lyons.) The writer reports the case of a girl, aged eight years, who suffered a severe contusion of the abdomen, by the wheel of a vehicle which passed over her six weeks before admission. After the accident, she complained of severe pains in the abdomen, which gradually became localized in the left flank. The abdomen at first increased somewhat in size, after a few days it again diminished, and two weeks before admission it began to increase again steadily. There was no disturbance of urination, and the urine appeared to be normal, except that on two occasions it contained traces of blood. There is obstinate constipation, which is relieved by enemata. The child is pale and emaciated. On examination of the abdomen he found a tumor of considerable size, which occupied the left upper portion of the belly, and pressed the false ribs outward. The tumor gradually diminished in size toward the iliac fossa, and its internal border reached just across the median line. The peristaltic action of the intestines could be easily felt, and even seen, in front of the swelling. On palpation the tumor was found to be firm, immovable in the cavity of the abdomen, but the skin freely movable over it. There is no distinct fluctuation, but on bimanual examination, one gets a distinct feeling of a floating mass. The operation consisted of an incision on the left side of the median line, about 10 cm. in length, and passing over the most prominent part of the tumor. On opening the peritoneal cavity, a very large tumor is revealed, which seems to be connected with the kidney, and pushes the descending colon forward. Aspiration with a syringe gives a clue to its nature, in the shape or a clear yellow fluid with a urinous odor. The swelling is incised, and about three litres of fluid escapes. The cavity has smooth, ashy gray walls. On introducing the finger into the sac, the lower portion of the left kidney is distinctly felt. The sac was drained. After the operation, the general condition of the patient improved. The drain and dressings are constantly saturated with urine. After two weeks the fistula healed, and the quantity of urine passed by the urethra became gradually normal. The recovery was uneventful.

Such cases are comparatively rare. Monod, in a very thorough study of the subject in 1892, was unable to find more than twenty-seven cases of this condition, which has been termed "traumatic pseudonephrosis." Since then Dordonnat reported two additional cases. In most cases the traumatism was applied in a way which was very similar to the action of the wheel in this instance. The clinical features of the trouble also coincided very closely to those observed in the present case,—the presence of hæmaturia, sometimes very slight; an apparent recovery after the accident, and then, after a few weeks, the formation of a tumor, the contents of which differed from urine only in its smaller percentage of urea. This tumor did not cause any functional disturbance. The majority of observers agree that this tumor is formed by the rupture of the ureter. Others believe that the dilation is nothing but the retrograde distension of the ureter due to an obstruction in its lumen. Monod reported two autopsies which cleared up the matter. In the first he found that the sac was in front of the kidney, behind the peritoneum, and that the ureter was not dilated, but ran along the anterior and internal aspect of the sac. It had no communication with the sac, the posterior wall of which was formed by the kidney. The latter was of normal size. In the second case there was a large retro peritoneal pouch, whose walls were formed by adhesions in the cellular tissue surrounding the kidney; the ureter and pelvis were again intact, and not dilated. In a third case Barker performed nephrectomy, and the kidney was found to be perfectly normal. Hence we have to deal, in these cases, with a perinephritic extravasation, which is inclosed by adhesions forming a sac, and not with a hydronephosis. The urine probably comes from a small rent in the ureter, whence it escapes drop by drop, and not from a wound of the kidney, which would be accompanied by a great deal of hemorrhage. The contents suppurates in 76 per cent. of cases. In rare instances spontaneous cure results, if the pressure of the fluid causes a rupture into the ureter. The indications for treatment are either puncture or incision, the author favoring the latter, because of the success in the present case.

IV. **Transmission of Typhoid Fever in Hospitals.**—By N. THOMESCO and J. COSTINESCO (Bucarest.) The writers report the cases of three children who were admitted to the Children's Hospital at Bucarest for other ailments, and discharged cured. After a time they came back suffering from typhoid fever. There had been several children with typhoid in the ward when they first came into the institution. The authors cannot account for the contagion, as all sanitary precautions were used in the ward.

DIETSKAYA MEDITSINA, JANUARY, 1900.

Two Cases of Fracture of the Skull.—By P. TERTSEN. The author reports two cases of fracture of the skull in children that have recently come under his observation. In the first case, a boy aged 2 ½ years, who fell from a third story window, the fracture was situated on the right side of the frontal bone. The child was paralyzed on the left side of his body. On examination, four days later, the fracture could be felt through the wound, and proved to be horizontal in direction, beginning 1.5 cm. to the left of the median line, and reaching the anterior margin of the temporal muscle on the right side of the forehead. The upper fragment was somewhat depressed, the lower overlapping it along the line of fracture.

On the following day, the child became semicomatose, the pupils were contracted, and scarcely reacted to light. The child had not regained consciousness since the accident. Hence, in addition to the concussion of the brain, which was due to the fall, there was also a compression of the cortex which produced the paralysis, and the prolonged unconsciousness.

The operation consisted in exposure of the fracture by means of a free incision, in chiselling away the overlying edge of the lower fragment thus exposed, and in elevating the edge of the upper fragment to relieve the pressure on the cortex. The dura was found uninjured, and no hemorrhage was present, except a few clots on the under surface of the edges of the bone. The wound was carefully disinfected and a dry dressing applied. A few minutes later the child began to cry and to move the limbs freely.

Hence there was no injury to the cortex itself, but the symptoms were due to the compression produced by the depressed bone. The hemiplegia returned on the evening of the same day, and then steadily improved until the child was discharged cured on the twelfth day.

In the second case, the child was 6½ years old, and was run over by a cart. The patient became unconscious, and a severe hemorrhage issued from the right ear, and from the nostrils. Nothing was found on examination of the skull, except a small swelling on the left temple. The patient regained consciousness and complained of headache. There was converging strabismus of the right eye, clots of blood in both ears and in nose; hemorrhage from the right ear. The treatment consisted of application of ice and the administration of valerian and camphor. The right tympanum was found freshly ruptured; the fissure was bleeding and vertical. On the following day, somnolence, slow irregular pulse (64). In the evening complete coma, rigidity of neck, but no paralysis and no convulsions. On the next day, the general condition was better, and the pulse 120, more regular, but small. The lower limbs persistently flexed. Answers questions intelligently, but slowly. On the next day, considerable improvement. Pulse 90, and rigidity of neck less marked. Left sided facial palsy appears for the first time. The general condition continued to improve from this time on, but the facial paralysis was stationary. The uvula was drawn to the right, but the soft palate contracted fairly well. About a week later, the symptoms of facial paralysis began to disappear, the paralysis of the abducens remains, and the right tympanum is hyperæmic. The general condition is good.

There is no doubt that we have to deal here with a fracture of the base of the skull. The result was probably a hemorrhage in the membranes of brain and on the cortex itself. The late appearance of facial paralysis is typical of fractures of the base, and is probably due to the pressure of a hæmatoma upon the facial nerve.

Trephining was not resorted to in this case, because the general condition of the patient improved quite rapidly.

[*To be Continued.*]

PEDIATRICS

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ORIGINAL ARTICLES

THE PRESENT STATE OF OUR KNOWLEDGE OF THE ACTION OF THE VARIOUS THERAPEUTIC SERUMS,

WITH SOME REMARKS CONCERNING THE USE OF PANE'S ANTIPNEUMONIC SERUM IN CHILDREN.*

By ANTONIO FANONI, M.D.,
New York.

IT is only within the past decade that scientific observers have begun to work on serum therapy, but the knowledge already gained concerning the value of this therapeutic measure in the various infectious diseases promises a great deal.

Richet and Herincourt (1888) were the first to attack this problem. It is true, their experiments were without results for practical purposes, but they were the stepping stones for the researches of later observers. We must not forget that in science nothing takes place by revolution, everything by evolution.

After these pioneers of serum therapy, came a host of others, such as Strauss, Martin, Grancher, Daremberg, Babes, Koch, etc., whose work in this field has given rise to the enormous amount of literature which we now possess.

As soon as the work of Behring and Roux on the serum therapy of diphtheria had resulted in marked success, other observers attempted to find and to introduce into practical use various therapeutic serums.

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* Read before the Italian Medical Society of the City of New York, March 16, 1900.

Thus, Tizzoni discovered and introduced an antitetanic serum, which afterwards was also prepared by Behring. Of this serum it may be stated that, although its action is not so remarkable as that of diphtheria antitoxin, the results, according to the latest statistics, are very satisfactory.

Marmorek, after a series of researches concerning the biology of the streptococcus, has succeeded in obtaining an antistreptococcus serum for the treatment of puerperal infection.

Maragliano has attempted to prepare a serum for the treatment of tuberculosis. This remedy has been extensively employed in practice.

Pane, after long and patient experimental research, which commenced in 1891, has succeeded in 1897 in preparing from large animals an antipneumococcus serum in sufficient quantity for practical application.

Sanarelli, after having discovered the bacillus of yellow fever, has also attempted to produce a serum for the treatment of this disease.

Finally, Yersin, the discoverer of the bacterium of bubonic plague, that pest which in the past has been the source of so much disaster to humanity, has prepared with Roux, a serum for this disease. The same had been previously attempted by Lusting, an Italian observer, by a different method.

Are all these worthy of the confidence of the unbiased practitioner?

In order to answer this question it is necessary to inquire into the state of our knowledge of the action of said serums in the infectious diseases in which they are used.

It is known that diphtheria and tetanus are two diseases in which the death of the patient is brought about by the action of the toxins produced by the respective bacteria. In fact, injections of the toxin produced by cultures of the diphtheria bacillus, and of the toxin produced by cultures of the tetanus bacillus into animals result in the development of clinical signs and of pathological changes which are identical to those that occur in man in the presence of these diseases.

The action of the antidiphtheritic and antitetanic serums, in animals as well as in man, undisputably takes place against their respective toxins by counteracting the intoxication of the organism.

On the other hand, in puerperal fever due to streptococci, in lobar pneumonia, which is now known to be produced exclusively by the pneumococcus of Frænkel, and in bubonic plague which is caused by the bacillus of Yersin (Kitasato), the toxic phenomena are of secondary importance; while the predominant manifestations are the infectious phenomena, that is, those produced by the bacteria in their immediate contact with the cells of the organism.

It is evident that the products of the metabolism of these bacteria, even without the formation of toxins, would be enough to produce such changes in the chemism of the single cells as to destroy life.

Hence the serum which will be efficient in this group of diseases must act against the life of the bacteria, either directly, or indirectly by placing the organism in such a condition that it can defend itself.

There are a number of investigations concerning this question of the mechanism of the action of serum against toxins and bacteria. Among them I must mention the very recent research of Pane which was communicated to the last medical congress in Italy, and in which this observer, by experiments upon animals, demonstrated that both Behring's antidiphtheritic serum, and his own antipneumonic serum act in diphtheria and pneumonia respectively by rapidly immunizing the organism. Pane makes it appear, with all due respect for Ehrlich, that the antitoxic theory, in the purely chemical sense, as it has been recently formulated by the latter observer, is not supported by experiments upon animals. Pane's serum overcomes the septicæmia produced by Frænkel's germ in rabbits in a manner which cannot be disputed. This fact has been confirmed by all observers who have experimented with this serum. (Armanni, De Giaxa, Boccardi, Banti, Caccioppo, Eyre and Washbourne).

The efficiency of Pane's serum in lobar pneumonia has been recognized by impartial observers, such as De Renzi, Maragliano, Cantieri, Massalongo, and a large number of practitioners, Italian as well as foreign.

Here in New York I have used this serum with marked success in my private practice in 18 cases of pneumonia, 4 of which were in children under the age of three years.

The first 6 cases were reported in a former paper. Of my 18 cases only 1 died. This patient, whom I saw on the ninth day of his illness, and who was in the pre-agonal stage, was given 40 cc. of Pane's antipneumonic serum hypodermatically at one dose, without much hope of saving his life. His temperature at the time of injecting the serum was 105°, his respiration, 56; his pulse, 132 per minute. Consciousness was clouded, and the vegetative functions were disordered. On the following day the patient's general condition was considerably improved, but the infection of the organism was so far advanced, that the serum only served to retard death for two days.

In the four cases of pneumonia in children which I treated with the serum there was no doubt as to the efficiency of Pane's remedy. All these children recovered after a few days' treatment. Of the last two cases, one seen by me with Dr. Luzzato, was 18 months old, and received four injections of Pane's serum. In the other, a child of two years, that I saw with Dr. Corsiglia, three injections of the serum were sufficient to establish a cure.

This serum, when injected in cases of pneumonia early enough, in sufficient quantity (40 cc. of No. 2 daily), and if not deteriorated by age, quickly produces a lowering of the temperature, and an improvement in the subjective comfort of the patient, as well as an amelioration of all the other symptoms. Resolution also tends to take place more rapidly.

The objection which has been made that the pulmonary lesion does not disappear rapidly enough after the injection of the serum has no value when one considers the pathological anatomy of fibrinous inflammation of the lung which has reached the stage of hepatization.

The antipneumonic serum, like all other serums (including the diphtheria antitoxin), has no effect when used in the pre-agonal stage of the disease. All that it can do is to retard death, as has happened in the case above cited.

The explanation of its inefficiency in such cases is clear: We cannot restore the functions of the cells which are indispensable to the life of the entire organism, once they are destroyed.

A few words must now be added about the other serums.

Marmorek's antistreptococcus serum, which is said to have saved many cases of septicæmia, has the disadvantage that it will save the animals experimented upon only from the streptococcus which was used to prepare the serum, and not from the other varieties of streptococci. Hence we ought to have as many varieties of this serum as there are species of streptococci; Marmorek's serum, however, has a certain effect on animals infected with other streptococci, enough to retard death when compared to the control animals (Pane). This explains the partial successes which I was able to observe myself in two cases of puerperal infection. In the first, which I saw with Dr. Ramon Guiteras, I used 40 cc. of Marmorek's serum, with good result. The other, which I saw with Dr. Louis Fischer, died after having received 70 cc. of the serum, by means of which death was retarded for four days.

Yersin-Roux's serum against the bubonic plague is very active, judging from the experiments on animals, but in man the results are not very satisfactory. In the experiments of Calmette and Salimbeni, during the epidemic in Oporto, the results seemed to be better. The same may be said of the results observed in India with the serum of Lusting.

About the serum against yellow fever nothing definite can be said. It seems that the successor of Sanarelli in the hygienic laboratory at Montevideo has found a more powerful serum than the one prepared by the discoverer of the bacillus icteroides. The results obtained by Sanarelli ought to be improved with this more powerful remedy.

Maragliano's serum against tuberculosis, which is the preparation most widely known in practice, should be discussed at greater length, inasmuch as the bacillus of tuberculosis produces a chronic infection *sui generis*, and hence Maragliano's serum has not the advantages of the other serums already mentioned, the effects of which are easily appreciable as they are used against infections which run their course rapidly. It must be said, however, that this serum, when put to the test in treating tuberculous patients in whom the disease has recently developed, has given some indisputable recoveries.

Some of the patients, after this treatment, finally become immune against doses of tuberculin that are ten times larger than the initial dose, which was sufficient to produce a reaction. These results have been subsequently verified by Behring, Babes, Niemann, De Renzi and Charrin. Maragliano has been able to establish that his serum also gives good results in animals, and so has added another fact to the evidence in favor of the beneficial action of the serum against tuberculosis.

I have used Maragliano's serum in my private practice. After having for nearly three years tried the numerous remedies that are recommended against tuberculosis, I have become convinced that this serum is to-day the only scientific remedy which we possess for the treatment of this disease. It can give valuable help in incipient cases of pulmonary tuberculosis where there is no mixed infection.

In conclusion I would say that, like other great discoveries that have not been accepted by humanity at once, but gradually have forced themselves upon us by the intrinsic power which they possess, this latest expression of the *ars curandi*,—serum therapy,—has not been more fortunate than the other scientific achievements, and has given rise to a controversy which, in the interest of suffering humanity, I hope will soon terminate in complete victory for its advocates.

66 West Tenth Street.

A CASE OF AMNESIA.*

By Philip F. Barbour, M.D.,
Professor of Diseases of Children, etc., in the Hospital College of Medicine, Louisville, Ky.

PHYSICIANS do not often have the opportunity of making observations upon patients presenting such psychological phenomena as occurred in the case which I have the pleasure of detailing to you to-night. It is all the more interesting to investigate such cases from a materialistic standpoint, and to explain many so-called psychical attributes by purely physical changes. Such seems to be the trend of even the psychologists of the present day.

The case which I report tonight exhibits a derangement of one of the most interesting as well as most important of all the mental processes. The memory is the true reproductive faculty of the intellect. It is essentially biologic and oftentimes it does not rise above the level of the animal cells in general, as is shown by automatic acts, or motions which by long practice become automatic or organic, as playing an instrument, etc. In its higher forms, however, it is psychic. In the case which I here describe both forms of memory were lost.

I was called to see G. G., a well developed girl aged four years and three months, who had been taken sick with high fever and a convulsion the night previous, since which time she had been lying in a state of stupor, recognizing no one and apparently partially paralyzed in the right upper and lower extremity. The history of the case showed a normal birth and no inherited diathesis. At the age of four months she had a series of convulsions, lasting over nine hours, since which time she had had convulsive seizures about every two weeks, which were more violent or more frequent whenever her bowels became constipated. She ate very freely of sweets, and her teeth were badly decayed.

She had been treated by several physicians and had received large doses of bromide, which were of no benefit to her, though pushed to the extent of an annoying bromide acne. The mother thought the bromides had produced some mental dullness.

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* Read before the Louisville Clinical Society.

There had apparently been very little the matter with her, except constipation, when she had the attack for which I was called to see her. A soap enema removed a mass of foul smelling feces, accompanied by a large amount of gas. Her restlessness ceased, and she fell asleep, awaking the next morning with a normal temperature. Her bowels moved freely from calomel, which she had taken during the night, and from that time she had no fever; her convalescence was rapid, and during the past four months she has had no recurrence of the convulsions, and mentally seems much brighter. The treatment has been entirely symptomatic, with the end in view of securing a more perfect digestion and a better regulated peristalsis of the bowels.

The interesting feature of her case was that she lost her memory during the attack, and did not fully regain it until several weeks had elapsed. I have presented the case because the return of the child's memory followed certain laws which have been promulgated by Ribot, in his "Diseases of the Memory." These laws are summed up briefly as follows:

"In general, dissolution of memory, the loss of recollection, follows an invariable order; first, recent events; next, ideas in general; then, feelings; lastly, acts.

"There is a regression from the more recent to the older, from the complex to the simple, from the voluntary to the automatic, from the less organized to the more organized.

"The exactitude of this law of regression is proved by the very rare instances in which progressive dissolution of memory is followed by recovery. The recollections in that case come back in the inverse order of their disappearance.

"Our law has been connected with the physiological principle that degeneration first affects that which is of most recent formation, and with the psychological principle that the complex disappears before the simple, because it is less often repeated in experience."

Her mother noticed first that the sight of food made no impression upon her, though she would eat or drink when food was put into her mouth. After several days she seemed to understand what was said to her, but apparently recognized nothing by sight. We might define the condition by saying that word-blindness persisted longer than word-deafness. When first placed upon her feet she was unable to walk or even to balance herself, though the paresis had disappeared; afterwards when attempting to walk, she would raise her feet high, and spread them far apart just as a child does when learning to walk. Still her locomotion improved so rapidly that she could walk before she could talk. In other words the organic, or I might say muscular, memory returned first.

She was lying in her mother's lap several days after the attack, when her favorite brother came into the room. She watched him for awhile in apparent indifference, when suddenly her remembrance of him, aroused most probably by her love for him, recurred; her eyes became bright, and she cried out in a paroxysm of joy, "Oh, Harry!" It was the first word she had spoken, and evidently represented the effect of the emotions stimulating the intellect. Up to this time she did not seem to recognize anyone.

It was several weeks before she began to remember and try to recall the songs she was fond of singing before she was taken sick. Her mother noticed that she would remember a measure of some song, and would look at her mother as if in perplexity for the next word or note. When it was given her, she would smile, and perhaps be able to finish the song. This represents a still more highly complex form of memory as it necessitated the perfect working of the principle of continuity and contiguity which are such important factors in the operation of the memory.

Cases of amnesia are naturally of great interest, for the memory furnishes the connecting links for the conscious eye. Its perfect working renders possible all intellectual processes. Without it there could be no progress. Without the ability to recollect, neither induction nor deduction nor any other operation of the mind could be continued. How could a concept be formed, if perceptions were forgotten as soon as impressed on the brain? The older theories of the modes of mental activity, which held that the mind acts as a whole, must give way to the demonstrated facts that the brain is a complex and complicated organ, with separate centers and tracts for the performance of its different functions. The fact that much of the brain is still a terra incognita does not militate against this theory of the specialization of its work. Much has been done in recent years to make us acquainted with the functions of the various centers of the brain. The many subdivisions into aphasia, amnesia, ataxia, word-blindness, word-deafness, etc., are becoming more and more clearly differentiated, and the pathological lesion underlying each is more accurately located and its extent defined. But in a case such as the one narrated, there was such a complete amnesia that it is improbable that any focal lesion could be demonstrated. It is conceded that a localized lesion which produced the aphasia might have existed, for such lesions could occur behind the third frontal convolution and could affect the associating fibres between the centers of sight, hearing and speech. But this would not explain the gap in the other intellectual functions evidenced by the patient trying to recollect songs, etc., a phenomenon which occurred long after she was able to ask for what she wanted, or to understand what was said to her. I can offer, however, no more satisfactory explanation than that it was a functional derangement of the intellectual centers, such as may be produced by an interference with the nutrition of the frontal lobes, or with the general circulation in the brain, resulting ing most probably from an auto-toxemia arising from her intestinal tract.

Many remarkable cases have been collected illustrating the various grades of dissolution of the memory. They have the advantage of having occurred in adults, whose intellectual processes are more easily comprehended and explained. In the child we must draw inferences from observed phenomena, which are all the more reliable in that introspection will not vitiate any of the subjective symptoms upon which we are to base our hypothesis.

This child offered a rare opportunity for observing and studying the psychic laws governing a phase of intellection so important to us as is memory.

Since the above was written, she has had a mild convulsion caused by the ingestion of some indigestible food, but she was easily relieved, and no mental abnormalities followed the attack.

DISCUSSION.

Dr. Carl Weidner.—The case reported by Dr. Barbour is very interesting, and is one which any of us might take to be a serious condition caused by some permanent lesion in the intellectual centres. The trouble passed away so quickly that I believe Dr. Barbour is correct in his judgment that it was caused by auto-intoxication. The outcome is especially fortunate. If I were to see a case of this kind, I think I should take a very gloomy view of the situation. Many conditions of this kind are undoubtedly the result of toxic effects. It is difficult for us to know what is going on. Some of these cases may be due to a limited inflammatory trouble, such as would follow trauma. I know a few cases have been reported lately following traumatism,—the so-called traumatic neuroses. In such a case do we have an inflammatory condition to deal with, or is it an intoxication, as in the case reported? Whatever may be the cause, some of these cases are very obscure. The case reported is of especial interest on account of the rapid disappearance of the symptoms, and we would be hardly justified in taking any other view except that there was some temporary disturbance of the nerve cells; had the condition been due to an inflammatory lesion it would not have passed away so quickly.

Dr. EWING MARSHALL.—The possibility of trauma suggests itself to me. I recall the case of a workman who fell 48 feet from a building, and alighted on a pile of sand. He was in a curious condition for ten days, appearing not to know anybody or recognize anything, after which he made a perfect recovery. It was a condition that I did not know how to explain, nor did I understand it. There could not have been any serious lesion of the brain, otherwise he would not have made a good recovery in ten days.

Dr. T. P. SATTERWHITE.—Psychological matters are very difficult to understand. I am sorry that there are not more persons who take an active interest in the subject of psychology. In the last few years I have been connected with the Central Kentucky Insane Asylum and have seen much of the incompetency of those in whose care these unfortunate people are intrusted. This condition exists not only in the institution of which I have the honor to be one of the commissioners, but I am satisfied that it exists in nearly all similar institutions in this as well as in other states. The great difficulty about getting proper men to take charge of these poor people, is that they are moved with each political change, and the pay is too small. An effort is being made to take these matters out of the hands of politicians and to increase the salaries, so as to try and get competent persons to take an interest in these positions. I have been much interested in the paper read by Dr. Barbour, and the foregoing thoughts occurred to me in connection with what he said about the loss of memory, etc.

Dr. J. M. **Krim.**—The case reported is extremely interesting, and I want to cite one that was similar except that it was of a more severe form. Nine months ago I was called to see a child who had been having convulsions and had been under the care of a physician; it was taken worse, and the regular physician not being able to attend, I was sent for. I saw the case two hours after the regular attendant had left. I waited until the regular physician came and we held a consultation. The mother stated that the child had always been constipated, but, having six children, this being the youngest, a little girl, who was taken care of principally by the older children, she could not say how long it had been since the child had had an action from the bowels. Introducing my finger into the rectum I could feel a hard mass; the child had strained violently but had been unable to relieve itself because of the large size of the fecal mass. We spooned out about a double handful of fecal matter and then gave the child a large enema of soapsuds, which was followed by a large evacuation of peanuts which the mother said the child had eaten at least six days previously. Considerable relief followed through evacuation of the bowel, but on the following day the child had a slight convulsion and then developed all the symptoms of meningitis. The meningeal trouble disappeared in a few days, but the child could not stand, could not talk, and could not hear. Hearing has since improved, and the child can now stand and walk but cannot talk. Hearing improved in four weeks; in ten weeks the child began to walk. Otherwise it is well nourished, eats and sleeps well, apparently recognizes everything that is said, but cannot talk.

Dr. P. F. **Barbour.**—Dr. Weidner's suggestion of autointoxication as the cause of the trouble in the case reported corroborates my own idea. There was no possibility of trauma in this case. There was the history that the child had been having convulsive seizures since the age of four months, leading up to this final convulsion with such serious consequences, and it indicated to me that there was some reflex cause; I did not believe it was genuine epilepsy, and the fact that the child has gone four months without a spasm under simple symptomatic treatment of the bowels shows that the point of irritation was located in the intestine. The fact that the child recovered so rapidly, regaining its full mental capabilities in two or three weeks, shows that there could not have been any pathological change in the brain. The interesting feature in the case was the way in which its faculties returned, as set forth in the paper. It was of more interest as a psychological than a medical study.

The case Dr. Krim reports must have been due to something more severe than a mere functional trouble. I judge that a condition lasting for several months in the child must have had some focal lesion as its cause.

Treatment of Convulsions in Children.—KINGS uses the following in cases of convulsions in infants under six months of age, whether due to dentition, falls on the head, meningitis, or other causes:

℞	Calcium sulphate	0.06 gm.
	Distilled water	250.00 gm.

M.S.—A teaspoonful every hour. (To be freshly prepared). *Bull Gén. de Thér.*, February 28, 1900.

A CASE OF PELIOSIS RHEUMATICA CAUSED BY TRAUMATISM.

By Louis Fischer, M.D.,
New York.

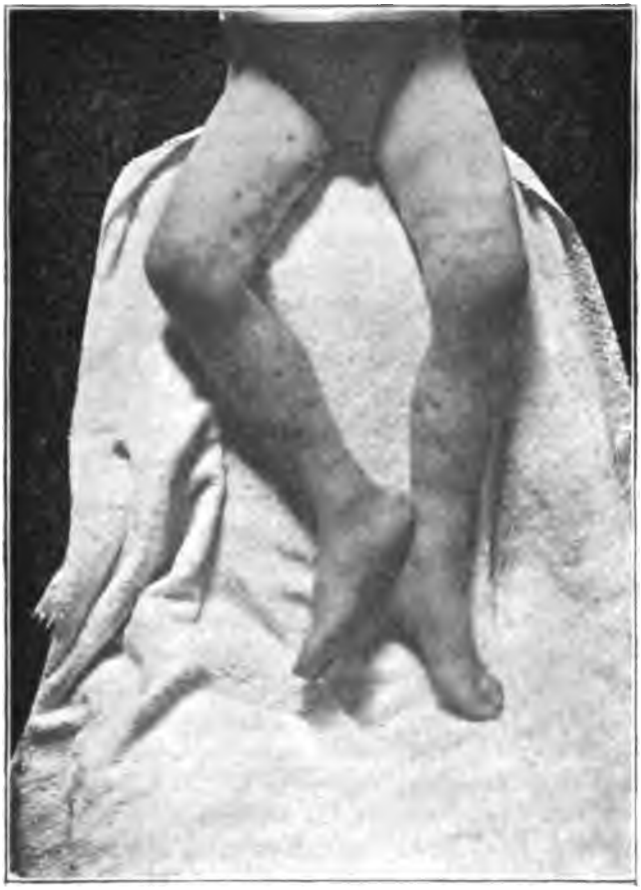
THE association of hemorrhages with affections of the joints characterizes this disease. It has frequently been noted that there is tenderness in the joints during the course of simple purpura. But the more pronounced form of fever, in conjunction with swellings and tenderness of the joints, *plus* the characteristic appearance of the subcutaneous hemorrhages appearing in purpuric spots, differentiate peliosis from simple purpura.

Associated with this rheumatic affection we frequently have extravasations of blood and serous effusions into the joints, giving a decided fluctuating feeling. One very important point is the fact that cardiac lesions do not complicate this condition. Cases of this kind have frequently been reported, and Prof. Bagnisky lays stress on the non-existence of heart lesions in this affection.

The following case came under my observation recently: A child, George P., about 9 years old, was attacked with pains in his feet and cried when attempting to walk. He had had some very violent exercise during the four or five weeks preceding this attack by riding a bicycle as much as four and five hours daily. The mother stated to me that he had frequently complained of joint pains, but she attributed them to "growing." She noted, however, that after riding the wheel the boy's pain was much more intense. His general condition was otherwise healthy. The examination gave me the following status:

A very well nourished boy; muscular and adipose tissues quite well developed, and very tall for his age. His weight is 84 lbs. The examination of the thorax showed both heart and lungs normal; no cough; heart sounds regular, strong; pulse, 96. The temperature was 100.2 in the rectum, and respiration 36. The tongue was slightly coated; appetitite good; bowels always inclined to constipation; but recently since riding the wheel, very much improved. Intellect free, and boy is mentally well developed.

The examination of the joints showed severe tenderness and swelling in both knees and ankles; slight pain on palpating or rotating the hip joint. The most marked tenderness and swelling was found at the knee joints. The upper extremities, —shoulder, elbow and wrist—were perfectly normal, as far as palpation and inspection could demonstrate. The eruption on the skin was of a purplish or bluish color, and looked like a distinct subcutaneous hemorrhage. It was confined to the lower extremities, covering almost completely the inner portions of both thighs, the ankles, and more especially the calves of both legs. The spots were very irregular in outline, in some places confluent, resembling more particularly the eruption of morbilli.



The child was put to bed, the joints were rendered immobile by applying woolen roller bandages over them, and locally over each joint some salicylic collodion, 10 per cent., was applied with a camel's hair brush.

The main point in the treatment which I laid stress upon was to have *absolute rest*, and it was for this reason that I put the child to bed, that I painted salicylic collodion, and that I put a roller (flannel) bandage on the legs and covered both limbs from the toes to the hip joint. Internally I gave ergotine, 1/60 grain every four hours, besides 15 drops of tinct. ferri acet. æth. in water after each meal, three times a day. The spots gradually changed from a deep bluish color to a brown; then after ten days to a light yellowish color, and after twenty-seven days they could scarcely be seen with the naked eye.

This case has a very interesting clinical history. The question that arose in my mind was: Did the violent exercise on the bicycle cause the inflammation of the joints and possibly also the subcutaneous hemorrhages? On looking over the previous history of the child, I found that he had been well nourished, breast fed until 11 months, and then weaned; commenced to walk at 1 year, and commenced talking at same age. Dentition commenced at 7 months, and when 8 months had two lower and two upper incisors; the child had seven teeth at 11 months, at time of weaning.

There is no sign of rickets, although there is a large belly, rather pendulous, and the previous history of constipation. The ribs are normal, the long bones well developed; spine and thorax as good as desired. I could obtain no data concerning time of closure of fontanelles. There is no history of hemophilia; no previous bleeding; no epistaxis; no hemoptysis; both parents of the child living, and both healthy. The child has had measles, complicated with bronchitis, when 3 years old, lasting in all about one month. No disease previous to this; no summer complaint, and nothing since that time.

There is no evidence of scurvy; teeth are well developed, perfectly normal; the gums are healthy. The mother had two other children—one now nursing and one 4½ years old. She has had no miscarriages; no reason to suspect lues.

To sum up, I believe the etiological factor in this case was the traumatic element, namely, the violent exercise causing both the hemorrhages and the inflammatory affection of the joints, and I believe that the diagnosis of peliosis rheumatica traumatica was justifiable.

EDITORIAL COMMENTS.

Treatment of Fractures at the Lower End of the Humerus

The successful treatment of these fractures depends almost entirely upon the accurate adjustment of the fragments and their subsequent retention in the proper position. Reduction may perhaps be most readily accomplished by flexion of the forearm at a right angle, combined with extension and manipulation while the parts are in this position. As this is the position of greatest relaxation of the joint, it is necessary to adjust the dressings very carefully to avoid recurrence of the displacement if the usual method of fixation at a right angle be employed. All fractures at the lower end of the humerus, however, may be treated by putting them up with the forearm flexed at a very acute angle after reduction has been accomplished. The fragments are then held firmly between the coronoid process in front and the ligaments and muscles behind. H. S. Smith maintains this position with a broad figure-of-eight bandage around the chest and the acutely flexed upper extremity. R. Jones simply makes a few turns of a roller bandage above the angle formed by the forearm and arm, and suspends the wrist from the neck. Occasionally the extreme flexion will interfere with the circulation in the forearm. Should swelling occur, the angle must be increased. The arm is kept up for about four weeks before passive motion is begun. This method is easy to apply, while the results obtained are quite as satisfactory as those from the old method of fixation at a right angle. T.

Abstracts of Foreign Pediatric Journals

We take pleasure in calling the new department of this journal to the attention of our readers. We shall endeavor to furnish abstracts of all the original articles contained in the French, German, Italian and Russian journals especially devoted to the study of pediatrics. While the abstracts will be as concise as may be consistent with clearness, we shall endeavor to make them long enough to give our readers an accurate idea of the arguments leading to the conclusions of the different writers. We hope thus to enable our subscribers, without unnecessary labor, to be thoroughly cognizant of the daily progress of this important branch of medicine all over the world. In addition we shall continue to publish abstracts of important articles relating to the diseases of children which may appear in general and special journals both at home and abroad. T.

Municipal Laboratories

The establishment of bacteriological laboratories by local boards of health throughout the country marks an epoch of distinct advance in the practical application of scientific medicine. The careful work of many of these laboratories is fully worthy of the confidence placed in them by the local physicians. It is a great privilege to be able to have prompt and accurate diagnosis furnished free of charge. Nevertheless the fact that one can have a bacteriological examination made *gratis* should not lead to the abuse of this privilege by physicians of patients who can well afford to pay for such work. It seems to us that such action does not differ morally from sending a private patient to a dispensary to obtain a free diagnosis from a specialist. The continuance of this practice of having bacteriological examinations made by the city would not only lead to overwork of the local health boards, but would tend to discourage the pursuit of medical laboratory work by those who are compelled to earn a living. Many of our young men would follow pathology, bacteriology, or chemistry, but are prevented from doing so by the lack of encouragement given to these branches by the general practitioner. This question is closely related to that of dispensary abuse, which still continues to agitate the profession throughout the civilized world. T

Oxyuris in the Appendix of Children

A boy of about 8 years was recently operated upon for catarrhal appendicitis at the Presbyterian Hospital in this city, and sections of the organ showed several specimens of oxyuris in the lumen. The question as to the frequency of the condition being thus raised, a search of the literature was made, and it was found that, so far from being rare, the presence of oxyuris in the cæcum and appendix is the rule if the child be affected at all.—An exhaustive account is given by G. F. Still (*British Med. Journal*, April, 1900). He reports that out of thirty-two autopsies upon children showing oxyuris in the colon, the parasite was found twenty-five times in the appendix also.—He suggests very plausibly that the apparent resistance of the affection to the ordinary drugs is perhaps attributable to this very fact, the appendix serving as a focus and breeding place for new crops of eggs and worms, however completely the colon be irrigated with parasiticide solutions.—For a cure he proposes that along with the classic procedure of injecting salt solution or quassia infusion (a pint and more in children of 6 to 12 years) santonin should be given (in safe doses) by the mouth, and the treatment carefully persevered in as long as needful.

B.

American Medical Association

The next annual meeting of the American Medical Association will be held at Atlantic City, June 5th to 8th. The preliminary program of the Section on Diseases of Children promises much of interest. Atlantic City is very attractive at this season of the year, and all who attend the meeting should return home refreshed physically as well as mentally, and consequently better equipped for the trying ordeal of summer work.

T.

DEDICATORY SONNET.

Read at the Complimentary Banquet to Dr. A. Jacobi on the Seventieth Anniversary of his Birthday, May 5th, 1900.

Some men are gifted with a giant mind
And climb to heights of honor and renown,
Stem adverse tides, bear opposition down,
And point the way for those who plod behind.
One wields the sword and hews his way to fame;
Another stands supreme in court, or mart;
One strikes the lyre and stirs the human heart
And ages echo and recall his name.
Yet nobler far is he whose ear gives heed
To those who lie, racked by consuming pain,
Crying, in anguished tones, their bitter need;
Who succors, that they may not call in vain,
His deeds are blazoned by no flatt'ring pen
Yet is he blessed above his fellow-men.

A princely fortune dwindles overnight,
The victor's laurels wither in a day;
The former Crœsus begs beside the way;
New heroes rise, the old are lost to sight,—
The modest Æsculap plods humbly on
And leaves to them the chase of fickle Fame;
Seeking nor princely fortune, nor acclaim,
He finds reward in duty fully done.
Where one in pain has giv'n a new soul birth,
Where tired eyes are drooping to their rest,
Where pestilence bids fair to scourge the earth,
There is he found, and there men call him blessed.
Though others shrink and pale before their fear,
He falters not, who sees his duty clear.

Master and friend, on this eventful day,
Which marks another decade as complete,
We come to lay our off'rings at your feet
Who have so often pointed us the way.
Where flows the storied Rhine, by Danube's flood,
From the far-distant Neva and the Seine
And placid Spree, o'er mountain, sea and plain,
Brothers of kindred as of alien blood
Their greetings send.—Lulled are the storms of youth;
Yet, young of heart, although your locks are gray,
You battle still, for Justice and for Truth,
As once you battled on a by-gone day.
And we, content to follow as we can,
Revere the master as we love the man.

FREDERIC BIERHOFF, M.D.

SOCIETY REPORTS

BRITISH MEDICAL ASSOCIATION.

Combined meeting of Edinburgh, Dundee, Perth, Stirling, Kinross, and Clarkmannan Branches, in Edinburgh Royal Infirmary, on Friday, February 23, 1900.

A clinical congress was held in the Infirmary, Dr. Dors, the President, in the chair.

A large number of cases were exhibited by members.

Mr. Cotterill exhibited a boy suffering from a **Curious Deformity of the Hands and Arms.** The boy had suffered from a periosteal sarcoma of the femur, and amputation was performed through the thigh. Recurrence took place and amputation at the hip joint was performed. Some months afterward secondary deposits appeared in the lungs. The hands and foot then became increased in size, flattened and thickened. X-ray photographs indicated the occurrence of thickening along the edges of the phalanges. The condition was suggestive of acromegaly, but there was no affection of the facial bones.

Dr. Melville Dunlop exhibited a boy, aged 6 years, suffering from **Hypertrophy affecting the Whole of One Side of the Body.** The condition was congenital. The left arm was 1 inch longer than the right; the left leg ½ inch longer than the right. The circumference of the chest was 1 inch greater on left side.

Dr. Stiles exhibited a rare case of **Plexiform Neuroma of the Orbit.** The tumor had been successfully removed. The patient was 4 years of age, and the tumor was congenital. He also showed a case of **Tuberculosis of the Lower Jaw.**

The **Pathological Preparations** exhibited included a large series of specimens preserved by Jore's Formalin method, which was fully described in Pediatrics last year. The specimens had preserved their colors in a wonderful manner.

Mr. H. J. Stiles and Mr. Andrew Watt exhibited a large collection of **Stereoscopic Photographs of Surgical Affections in Children.** This form of photography is now being largely used for teaching purposes in Edinburgh.

Mr. Caird exhibited a series of **Syphilitic Sequestra.** In one of these, from a case of congenital syphilis in which death occurred at the age of 20, the sequestrum included practically the whole of both parietal bones and the frontal plate of the frontal bone. The bone was much thickened, extremely dense and hard, and exhibited marks where unsuccessful efforts had been made to trephine. During life the necrosed bone had roofed in a large cavity which contained air and fetid pus, and communicated to the exterior by several sinuses.

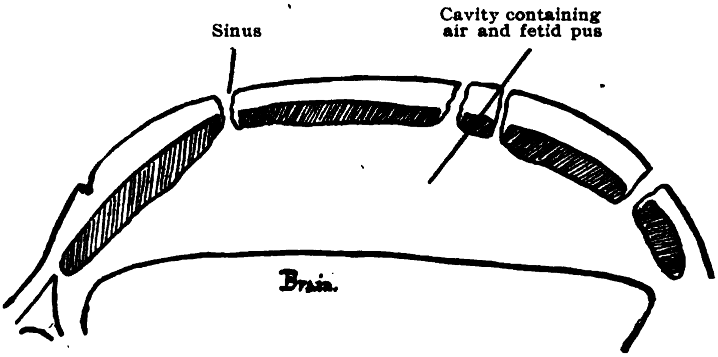
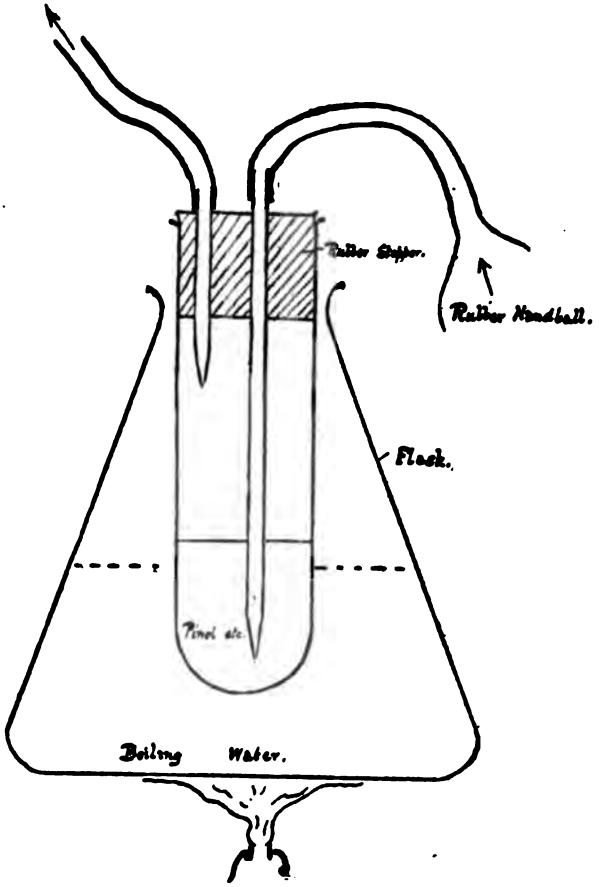


Diagram of skull in mesial section. Mr. Caird's case.

A particularly interesting exhibit was shown by Dr. Ford Robertson, Pathologist to the Scottish Asylums' Board. Studying **Sections of the Nervous System prepared by New Methods,** Dr. Robertson discovered a variety of cell which has hitherto been undescribed. These cells are of mesoblastic origin, and have been named by Dr. Robertson "mesoglia cells." They are quite distinct from the hemoglia cells, having special morphological characteristics and behaving quite differently in pathological conditions. They are found scattered throughout the nervous system, and are as numerous as the neuroglia cells. They have peculiar staining reactions, and in some of the specimens shown, prepared by a special method, the mesoglia cells stood out in sharp definition, while the neuroglia cells and the nerve cells remained unstained. A full description of these cells, which Dr. Robertson hopes to publish soon, is awaited with much interest.

Dr. WEBSTER exhibited a **Simply Constructed Spray** for the administration of pinol, eucalyptol, menthol, etc., in the



Dr. Webster's Spray.

glass tubes. One of these is connected above with a rubber hand ball and passes down into the drug which is contained in the test tube. The other, which serves as an outlet, passes simply though the stopper. Its upper end is connected with form of a dry or moist spray. The apparatus consists of a wide test tube, through the rubber stopper of which pass two a long piece of rubber tubing, by which the spray is conducted to the diseased surface. The lower end of each of the glass tubes must be drawn to a fine point.

When required for use the tube is inserted into the neck of a boiling-flask containing water which is kept boiling by means of a spirit lamp. Air is then pumped into the medicament by means of the hand ball, and the drug issues from the other tube in the form of a fine spray.

The Treatment of Scarlatinal Nephritis.—ZIEMSSEN, in *Jour. de Méd. de Paris*, gives some valuable suggestions on this subject. The chief indication is to avoid irritating the inflamed organs, and to cause the skin to take their place as much as possible. A hot bath, followed by wrapping in woolen blankets, is an excellent diaphoretic. The gradual heating of the water in the bathtub, according to the method of Liebermeister, by pouring warm water into the tub while the patient is in the bath, enables one to raise the temperature of the bath up to 41° or 42° C. The bath must be prolonged for about an hour or two in order to secure a profuse perspiration. In severe cases, accompanied by anuria, he recommends the use of pilocarpine, champagne, and a diet of milk with mineral waters. Digitalis, acetate of potassium, or of ammonium, are remedies to be used internally. If no uremic symptoms be present one will do well to abstain from all medication. During convalescence, it is advisable to wear woolen underclothing, to avoid exposure, and to abstain from alcoholic drinks and other articles of diet that may irritate the kidneys.

CORRESPONDENCE

PROPHYLAXIS IN SCARLET FEVER.

DANVILLE, ILLINOIS, February 19, 1900.

EDITOR OF PEDIATRICS;

Dear Sir:—In perusing the literature on the contagion of scarlet fever, I am impressed with the almost unanimous opinion of the extreme contagiousness and ease of transmission of the scarlatinal poison. After search for some preventive more practical than isolation and other things usually recommended, I found in Sajous's Annual for 1891 (Starr & Powell, Vol. I.), De Rosa's report of 66 children, belonging to families in which there was scarlet fever, and to whom was administered a daily dose of salicylic acid (gr. jss–iv, according to age). Only three of the 66 children developed the disease. He concludes that salicylic acid absolutely prevents the development of scarlatina, if administered in sufficient dose, and early enough after the exposure. Even when given late, and in small doses, it renders the disease more mild. He does not state, however, whether any attempt at isolation was made, or how long the remedy was continued. Acting on his suggestion, I have administered salicylic acid during the past two and a half years to 41 children, in homes where there was scarlatina. Only six of the children developed the disease. The age of the 41 varied from three months to 15 years. All except one were one year old, or older. The dose was gr. i–iii, four times daily, with sacch. lactis. No attempt was made at isolation. The remedy was continued from three to five weeks; in four homes containing 12 children, the dose was administered for three weeks. Of these a babe of 14 months developed the disease very mildly on the eighth day, the oldest, a boy of six years, having died on the seventh day of severe anginal sore throat.

The scarlatinal patients were anointed twice daily with 1 per cent. carbolized vaseline, and given a warm bath every second day till the end of the third week. Then the houses were disinfected with sulphurous acid, i.e., by burning sulphur freely (about one pound to each room), keeping the house closed for three hours, then opening and airing freely. Desquamation seemed complete in the last cases in three weeks. I believe the oily inunction and warm baths facilitated the process.—I do not wish to be placed in the position of belittling isolation. I believe it the best preventive, but in the cases reported this was impossible, and the sanitary conditions were poor also. I believe that Dr. De Rosa has given us a valuable agent with which to combat this dreadful disease. My only excuse for this letter is to call forth further investigation, or better clinical reports.

T. E. Walton, M.D.

P. S. I advise the continuation of the remedy till desquamation is complete; then house disinfection. I have had no experience with formaldehyde.

In Cholera Infantum.—Debove uses the following solution as enema in cholera infantum. It may also be given internally in doses of a teaspoonful every hour:

℞ Nitrate of silver..................1 to 3 centigm.
Distilled water.......................50 grams.
M. ft. enema.—*Gaz. des Hopitaux*, March 20, 1900.

ABSTRACTS

CROUPOUS PNEUMONIA IN CHILDREN.

J. Park West in the *Cleveland Medical Gazette*, January 1900, in speaking of the treatment of croupous pneumonia in childhood, says that above all we should avoid trying to do too much, as the mortality of the disease is very low, being only about 4 to 6 per cent. Poultices should not be used, except in the form of mustard poultices, to relieve pain. Expectorants are not needed, unless there is a troublesome bronchitis. Plenty of fresh air is essential. Forced feeding should not be resorted to unless there is a progressive weakness. The best diet is milk with a little whisky. Brucine or strychnine, digitalis or whisky should be administered at the slightest sign of failure. During the extreme depression, which sometimes follows the crisis, small doses, frequently repeated, of nitroglycerin should be added to the above drugs. Small doses of codein are useful for the pain, or the troublesome cough, if these be present, but these drugs must be stopped as soon as the desired effect is obtained. If the temperature be very high, an occasional dose of phenacetin may be administered, but this drug must be used with caution. A bath of from three to ten minutes, at 95 to 100 degrees F., with gentle rubbing of the body, is very soothing and strengthening. It is to be repeated when necessary, but rarely more than one or two baths are required.

EARLY INTUBATION IN LARYNGEAL DIPHTHERIA.

William E. Lower, in the *Cleveland Medical Gazette*, January, 1900, pleads for early intubation in cases of laryngeal diphtheria, and gives the result of his experience in cases that were intubated early, and in cases that were not intubated until late in the disease. He says that, while in the former group, scarcely any deaths occurred, in the latter the mortality reached as high as 50 per cent. He says that the advantages of early intubation are as follows:—First, the child is stronger, has greater resistance, and can bear the operation better. Second, the time for the wearing of the tube is lessened, generally not exceeding 24 to 36 hours. Third, by shortening the time of wearing the tube, the amount of nourishment required is less; there is less opportunity for the introduction of septic material into the trachea, and consequently less chance of septic or broncho-pneumonia, which is nearly always the cause of death.

In all cases the antitoxin should be used as early as possible. The intubation should be performed at the appearance of the earliest symptoms of laryngeal obstruction, and not when dyspnœa becomes severe, and cyanosis has set in. The author also advises rectal feeding of the intubated children.

A CASE OF TRAUMATIC TETANUS TREATED WITH ANTITOXIN AND CHLORAL—RECOVERY.

T. R. H. Willis, in the *Australasian Medical Gazette*, January 20, 1900, reports a case of traumatic tetanus which recovered under the use of the antitoxin. The patient was a boy, aged 13, who sustained a superficial abrasion over the left patella. Ten days later the symptoms of lockjaw began to appear. He was given chloral hydrate in doses of ten grains every four hours, and an intravenous injection of the anti-tetanic serum. The serum was injected, under chloroform, into the left median basilic vein, 40 cc. being used at the first injection. On the following day he received 10 cc. subcutaneously, and in addition 1/200 gr. of hyoscin. As the spasms did not cease on the following day, he was given morphia, 1/8 gr., subcutaneously, which was followed by almost immediate relief. The chloral was continued. On the following day the spasms reappeared, and he was given another intravenous injection of 40 cc. of antitoxin. From that time on he began to mend. He still kept on taking chloral. He had several relapses before convalescence finally set in. He received each time, injections in doses varying from 20 to 40 cc., and chloral in doses of 40 grains per diem. A curious feature of the case was that each injection was succeeded by violent spasms, and the first general convulsion noticed occurred after the first injection. The writer does not think that the recovery was due solely to the serum, but believes that the chloral contributed considerably to the relief of the spasms.

THE SIGNIFICANCE OF EARACHE IN CHILDREN.

T. Halsted, in the *Medical News*, March 17th, 1900, says that the ear has probably been more deliberately neglected by the average physician than any other organ. Earache is of two very distinct varieties: The one is neuralgia, and partakes of the character of neuralgic pains in other parts of the body; the other is an inflammatory pain, steady, throbbing, and beating. In children old enough to answer intelligently and in adults, if with an acute pain in the ear, there is no deafness, no fullness in the ears, no tinnitus, no redness or bulging of the drum, we have to deal probably with a neuralgic earache. A beginning furuncle in the external auditory canal, causing much pain, but neither deafness nor tinnitus, may be easily overlooked.

In children, earache is usually a result of inflammation in the middle ear, and only exceptionally is it neuralgic. It is very important to make a diagnosis in these cases of otitis media, and to prevent the possibility of a mastoiditis, etc. The Eustachian tube is shorter in children than in adults, and the pus can therefore more easily escape into the pharynx. Thus it happens that many cases of otitis media are overlooked by the physician, because they are accompanied by neither earache nor bulging of the drum: Infants do not localize the pain distinctly, but are restless and peevish, and bore their head into the pillow, at times shrieking with pain, either when awake, or when starting in sleep. Some of them try to raise their fist to the affected ear, and older children rub the ear, indicating, as best they know how, the seat of the trouble. Inflammation of the middle ear is not only a sequel of the infectious diseases, but it is the result of general intoxication, caused by the presence of gastro-enteritis, of broncho-pneumonia, etc. Recurrent attacks of earache mean the presence of adenoid vegetations in the naso-pharynx. One attack of acute otitis may pass away without any damage to the function of the ear, but it is doubtful whether repeated attacks of this kind will leave the ear in the normal condition. The large majority of cases of chronic middle ear disease in adults is traceable to acute otitis media due to adenoids in childhood. The writer concludes:—(1) Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal, (2) Infants and young children may have suppuration of the middle ear, without evidences of pain, or without rupture of the drum membrane. (3) In the absence of other known cause of pain, from which the child is evidently suffering, the first cause to be thought of is acute otitis media, and this calls for an examination of the drum membrane. (4) It has been shown by examination of the middle ear during life, and post mortem, that purulent otitis media is almost always present in diseases of the gastrointestinal tract, and in broncho-pneumonia, to which diseases it probably stands in a causative relation. (5) The cause of death in many acute and chronic infectious diseases, in meningitis, and in the exanthemata, is the result of unrecognized and untreated abscess of the middle ear. (6) Repeated earaches in children are ordinarily but signs of acute exacerbations of chronic otitis media resulting from adenoids. (7) In adults the chronic otitis media is often but a sequel of the otitis which had its origin in childhood, when it was due to adenoids, and was practically curable.

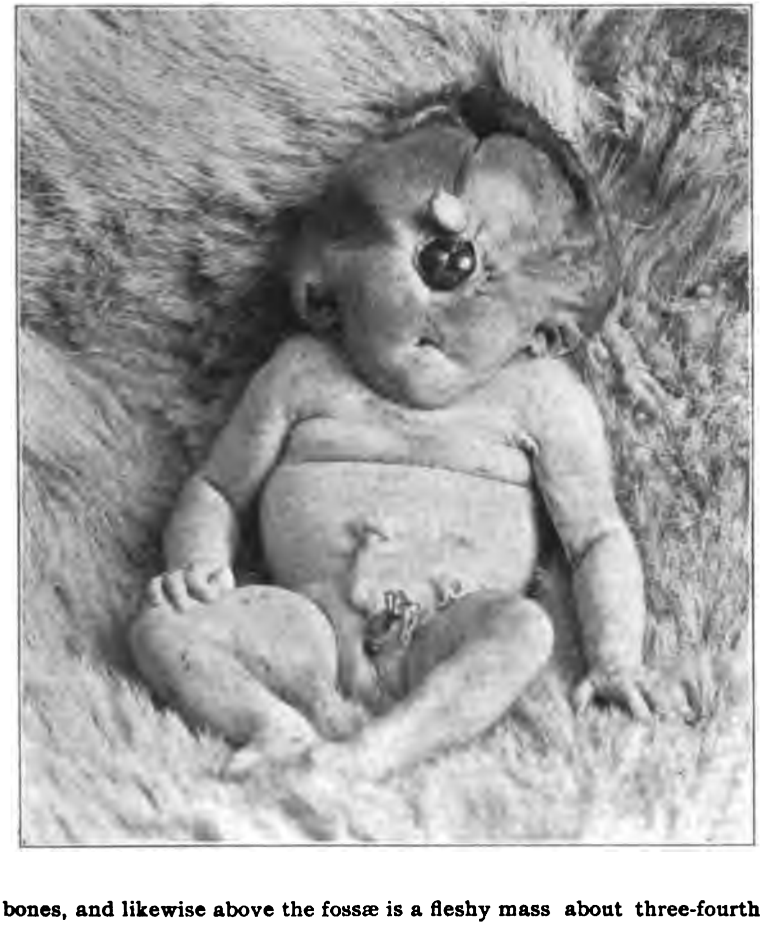
TINEA FAVOSA:

C. A. Kinch, in the *New York Medical Journal*, March 17, 1900, gives an interesting resumé of this dermatomycosis. He says that favus is very rare in American subjects, and most cases can be traced to contact with immigrants who are afflicted with this disease. In two instances which recently occurred in his private practice, this fact was forcibly illustrated. Favus also affects domestic animals, especially mice, rats, cats, dogs and rabbits. It also has been seen in the fowl. The occurrence of direct transmission from one animal to another, and to man has been demonstrated. The predisposing causes of favus are supposed to be youthfulness, scrofula, lymphatic diathesis, malnutrition, unsanitary environment, and some peculiarity of the skin that is not fully understood. The essential etiologic factor is the development of a mold, or schizomycete, the *Achorion Schœnleinii*. in the epidermis and in the shaft of the hair. The spores penetrate into the hair follicle, and develop laterally in the horny layers of the epidermis, and vertically in the internal root sheaths. The fungus penetrates the cuticle of the hair, and enters the bulb. It grows upward from the shaft for a distance not exceeding two inches. An ulceration takes place in the nutrient papillæ, and some of the hairs are destroyed. Pitted cicatrices are left, and the growth of the fungus goes on until the peculiar cup-shaped yellow crusts of favus result. The technical name of this cup is *scutulum*, *favus* or *godet*. The cups are from two to seven mm. in diameter, and sulphur yellow in color. When old they fade to a grayish white, resembling crusts of chronic eczema. They may also become brownish, or greenish from the admixture of blood, pus, or extraneous matter. They are massed in crusts about two mm. in thickness, through which groups and chains ot dry, wiry hair protrude, and they exhale a peculiar, penetrating odor. For microscopic examination, it is better to take some cf the under or dermal side of the crust, The vegetation of the *achorion* upon the skin produces a dermatitis which cannot be distinguished from that of ringworm until the cups appear. Ringworm extends in circular or gyrate patches, usually leaving a free centre; the patches have distinct margins, and the hair does not fall out completely, but presents a nibbled off appearance. In favus, on the other hand, there are the characteristic cups, the disease goes down to the roots of the hair, and leaves scars. It does not affect all the hairs, but spreads in spots, so that the head looks like it does in alopecia areata of syphilitic origin. The disease is accompanied by considerable itching, and the nails are often infected in favus. While in favus the nail is first affected at its front edge, in ringworm the sides and the back of the nail are first involved. Statistics show that the disease is gradually increasing in this country, and a law has been passed excluding all favous immigrants. The treatment of favus which gives the best results is that advocated by Bazin forty-five years ago,—persistent epilation of the affected area, followed by brisk rubbing into thediseased surface of a watery solution of corrosive sublimate. This should be done at the office of the physician, and not entrusted to the patient. In tne intervals, he may apply some antiparasiticide ointment; or, if there be much itching, an antipruritic. The general health of the patient should also be looked after, and any deficiencies in hygiene corrected. If after three or four months cure will seem to have been accomplished, the treatment should be suspended, but the patient must be kept under observation for six or eight weeks longer. It is better to give a less encouraging prognosis as to duration. If the treatment be persisted in for a sufficient length of time, these cases are curable.

A CASE OF CYCLOPS.

FRANK B. WALKER (*Physician and Surgeon*, January, 1900) reports a case with the following history: M. E., 27 years of age, was delivered of this, her first born, at full term, January 1, 1900. There was nothing peculiar about the sickness except that the flattening of the head, which presented, obstructed free delivery and necessitated the use of compressing forceps. Life had been felt on the morning of the 1st, but it was a still-birth. So far as was known the parental history was good. There was no record of accident or unusual incident of any kind during the period of pregnancy.

Examination of the specimen externally shows no defect either in the body proper or extremities, but the head is seen to be cyclopic, hydrocephalic, and shapeless from imperfect development of the cranial bones. The orbital fossæ are confluent, and contain two corneæ within two distinct but rudimentary balls. The whole presenting surface of the eyeballs is covered with a reddened conjunctiva. There are no eyelids. Displaced upward above the orbital fossæ are the two rudimentary nasal bones, and likewise above the fossæ is a fleshy mass about three-fourths of an inch long, presumably the nose, but resembling a penis. At the end of it is a small opening which expands near the middle and divides by fleshy tissues into two blind sinuses. The upper cervical spine seemed at first to be bifid, but this appearance was later found to be due to absence of part of the occipital bone. The bones of the face are normal with the exception of the nasal.



Within the skull of this monster the cranial bones are all found to be imperfectly developed. The horizontal plate of the frontal is absent, or at most only arched. The basilar process of the occipital bone is present and bears the foramen magnum, but beyond the ring of bone surrounding the foramen magnum the occipital bone is absent. In its place supporting the cerebellum are strong bands of fascia in which are four openings, disposed symmetrically around the foramen magnum. The brain substance is small in quantity, soft from contact with fluid, and presents no well-marked convolutions. The optic tract is present. The skull contained eleven ounces of bloody fluid.

FOREIGN PEDIATRIC JOURNALS.

Abstracts of all Original Articles Appearing in Foreign Journals Devoted to Pediatrics

DIETSKAYA MEDITSINA, JANUARY, 1900.

Continued from May 1st issue.

II. The Use of Sodium Cinnamate in Tuberculosis of Nurslings.—By A. P. Morkovitine. Cinnamic acid is a substance which has the property of exciting the formation of connective tissue around areas of tuberculosis. The author reports a series of cases of tuberculosis in infants, in which he has used the sodium salt of cinnamic acid. This salt was selected because it is more stable, more easily soluble, and does not produce any local irritation. Solutions of sodium cinnamate were used hypodermatically in the mammary line of the chest. A 2.5 per cent. solution in distilled water was employed, and of this, one to five divisions of a Pravaz syringe were injected at each dose. The injections were repeated at first twice a week, then every third day, and finally every other day. In all the cases there was no doubt as to the existence of tuberculosis, because tubercle bacilli were found in the urine. The writer reports 25 cases, ranging from 2½ to 9 months. These infants received injections varying from 2 to 53 in number, during a period not exceeding 150 days. There were no untoward symptoms, either locally, or by absorption on the part of the gastro-intestinal tract. No disturbing effects upon the heart or blood-vessels were noted. On the contrary, the drug may be said to have a slight, stimulating effect upon the circulation. The examination of the urine in all cases showed that the drug did affect the kidneys in any way. The chief effects of the drug were observed in the lungs, where, after its use, the physical signs of consolidation would become more marked or more extensive. This was less noticeable in cases where only small areas of lung were affected. In subacute cases, the drug has a less marked effect than in the chronic. After a time the inflammatory phenomena in the lungs become less prominent; the dullness and the bronchial breathing become less pronounced. In favorable cases, the tubercle bacilli disappear from the urine. In fatal cases, considerable areas of connective tissue are found in the lungs at autopsy. The loss of weight is slower than when the drug is not used, and in favorable cases the use of the drug is accompanied by gain in weight. The injections tend to lower the temperature to a certain extent. The drug seems to act better in proportion to the age of the child. In severe prolonged cases almost no results were obtained. Of the writer's 25 cases, 22 died. In one case, the result is still doubtful, and two cases may be said to have been cured by the use of sodium cinnamate.

III. A Case of Alopecia Areata Celsi.—By J. F. Jorno. This is a comparatively rare affection, constituting only 0.6 to 2.5 per cent. of all skin diseases. The patient was a girl aged seven years. A year before admission, she began to lose her hair in patches over the temples. The hair fell out in masses, with the roots. The bald spots were round, and the skin of the scalp was perfectly smooth. At no time were there any crusts or eruptions of any kind. At the end of the year she lost all her hair, and her head is now perfectly smooth and shiny. Here and there a few new hairs can be seen, and in the region of the temples (where the first hair fell out), a fine downy growth is present. The eyebrows are also affected, especially the left, which presents a very marked bald patch.

Concerning the etiology of this trouble, there are two distinct views. Most German observers hold that it is a trophoneurotic disease of the hair bulbs. On the other hand, in France, the general opinion seems to be that it is of parasitic origin, and numerous fungi, bacilli and cocci have been described as the causative factors of the affection. There is really no proof that the disease is a parasitic one. The parasites, etc., to which its development has been attributed are found in the hair follicles of normal scalps. Attempts at inoculation of any of these micro-organisms into healthy scalps have thus far always failed. The only fact that can be cited in support of the parasitic theory is, that alopecia areata sometimes occurs in France in what have been termed epidemics; but it is strange that no epidemics have ever been reported in other parts of the world. On the other hand, the trophoneurotic theory is supported by the fact that the histologic changes which are found in the hair of these patients are an atrophy of the hair bulbs. Atrophy of the skin of the scalp, and of the aponeurosis of the occipito frontalis is found in many of these cases. Finally, in dogs the division of the second cervical ganglion is followed by an alopecia areata of the neck.

IV. A Case of Tuberculous Pericarditis.—By I. V. ROUSSAKOFF. A boy aged one year and eleven months was admitted into the hospital, on account of enlarged abdomen and fever which was present during the preceding three days. A poorly nourished child, with distinct evidences of rickets. There is dullness on percussion over the right lower lobe posteriorly, but no evidences of consolidation on auscultation. The pulse is weak, 200; the heart normal; its area of dullness not enlarged. The liver is considerably enlarged, its lower border reaching the umbilicus. The boy remained in the hospital for three days, during which his temperature ranged from 37.4 to 36.8° C. The diagnosis was cirrhosis of the liver.

A few months later the child was again admitted. He had ascites, and edema of the face and extremities. The pulse was 144; the apex beat was scarcely felt, 2 cm. to the left of the nipple; left ventricle somewhat hypertrophied, but no murmur. Liver considerably enlarged. The temperature during the first twenty-four hours was 38.6° C. There was cough and diarrhea. On the next day exploratory laparotomy was performed, and about 800 cc. of yellowish, slightly turbid fluid was removed. The fluid contained considerable fibrinous sediment. A number of minute hemorrhages were found on the peritoneum. The patient died two days later. At the autopsy the walls ot the pericardium were found thickened, closely adherent to each other, and inclosing some yellowish fibrinous masses, which on microscopic examination were found to contain miliary tubercles in all stages of degeneration. Tubercles were also found in the lungs, the liver, the kidneys, the pleura, and in the peritoneum. The abdominal wound showed no evidence of suppuration. The liver was very large,of the "nutmeg" variety. Hence the case was tuberculous pericarditis, and peritonitts. The writer thinks the physician should bear in mind tuberculosis as a cause of lesions in various parts of the body when confronted with such complicated cases as this one.

V. A Case of Myxedema in a Girl, Aged Two and a Half Years. By B. A. Egiz, The patient presented the typical syndrome of myxedema and the cretinoid state. During the first three weeks at the hospital the child did not receive any thyreoid extract, and all the symptoms grew steadily worse. Thyreoid extract was then admininistered in tablets of 0.12 gm. each daily. No unfavorable symptoms were noticed at any time. After she had taken 37 tabletshere was a marked improvement in all the symptoms of myxedema and of the cretinoid state, including the trophic and psychic disturbances characteristic of these conditions.

ANNALES DE MÉDECINE ET CHIRURGIE INFANTILES, FEBRUARY 1st, 1900.

I. The Fundamental Indices of the Normal Physical Development of the Infantile Organism.—J. B. Studzinski.

Studzinski holds that it is a useful thing for the physician to be able to distinguish the effects of morbid processes from the effects of improper mode of life, etc.; in other words from the anomalies of development of the organism.

He collected the data given by various authors concerning the growth and development of children at various ages, and in various countries, and has constructed a table which applies to all ages and all countries. The circumference of the cranium at various ages has not been given by the authors consulted, and in this table they are obtained by a simple calculation. The writers whose works have been used in the preparation of the table include, among others: Comby (France), Dyck (Russia), Gebhardt (Germany), and Holt (United States).

II. An Epidemic of Dermatitis Exfoliativa in the Newly Born.—By Walter Spencer (Enmore, N.S.W.). Reprinted from the *Australasian Medical Gazette*, June 20, 1899.

The writer reports an epidemic of a skin disease in the newly born to which he gives the name of dermatitis exfoliativa. The onset of the disease was sudden. It occurred by preference in children under three weeks old, and was accompanied by systemic disturbances. The eruption was polymorphous, and began, as a rule, on the trunk, especially upon the extensor surfaces, in the shape of bullæ with transparent serous contents. The hairy part of the head was usually spared. In a few cases the mucosa of the mouth was affected, but only temporarily. The bullæ were from 8 mm. to 1 cm. in diameter and sometimes were surrounded by a pink areola. In some cases the bullæ healed like artificial blisters; in others the areola extended as an erythema, and in place of the bulla there remained a small ulcerated surface. The erythema desquamated in large places, and had a tendency to spread and to join neighboring areolæ. In some cases there were papules, especially on the scalp; in others the eruption took the form of vesicles, and in many cases the vesicles or bullæ became pustules. In all cases, whatever the form of the initial eruption, there followed desquamation. As a rule, the erythema first desquamated in small scales and later in large pieces. The denuded skin was either moist or dry. There was never any itching, and the disease usually terminated gradually by a diminution of the desquamation. The nails, the palms, and the soles were not affected. The author reports twenty-five cases of this disease. It was found to be directly communicable by contact, but its etiology is as yet obscure.

III. **The Special Therapeutics of Childhood.**—By EUGENE QUINTRIE. The writer shows that the therapeutics of infancy and childhood must differ essentially from the methods of treatment employed in adults because the anatomy and physiology of the young differ so markedly from the state of the body in more mature individuals. It is true that the remedies employed are the same in both children and adults, but the mode of using these weapons to combat pathologic conditions differs essentially in treating diseases of children. The chief indication for treatment in children is not always the most prominent symptom, as in adults, but very frequently it is a seemingly remote condition which is the final cause of the symptom that requires our attention. The clinician should therefore analyze minutely the factors of the disease before him, and treat the patient according to the indications and contraindications of such analysis. At the beginning of an illness in a child the expectant plan is the more rational. No "system" must be followed in treating diseases of children but the therapeutic measures must be based upon the rational method.

In conclusion he says that prophylactic measures should constitute a large part of the therapeutics of childhood.

IV. **The Electric Treatment of Anemia, Chlorosis, and Other Disturbances of Nutrition.**—By FOVEAU DE COURMELLES. In the disturbances of nutrition which accompany the advent of puberty, the writer advises the use of the induced current, of continuous and static currents, of electric baths, of electric light baths, of current of high intensity, and of inhalations of ozone.

ANNALES DE MÉDECINE ET CHIRURGIE INFANTILES, FEBRUARY 15, 1900.

I. **Landry's Paralysis.**—By O. SOLTMANN (Leipzig). The writer reviews the literature of the subject and reports a case of Landry's paralysis in a girl aged 11 years. The patient was perfectly well until the present illness and there were no hereditary predisposing factors. The onset was sudden—with fever, vertigo, sensation of compression of the head, general fatigue, lancinating pains in the soles of the feet, the heels, and the legs. The pains spread towards the loins and the chest, and were followed after a few days by paralysis of the lower extremities. This paralysis gradually ascended, involving successively the trunk, the shoulders, and the upper extremities, so that at the end of three weeks the patient was completely paralyzed. She could not hold up her head, and it fell back when lifted from the pillow. The patient became very weak, and cough and dyspnea set in. In this condition she was brought to the hospital. There was decubitus; she could swallow with difficulty; the lower lip was flaccid; there was profuse salivation, and she could not purse up the lips nor whistle. There was no disturbance of sensation; no derangement of vision, and the fundus oculi was found normal; there were no psychical disturbances. There was hyperidrosis of the upper and lower extremities, especially of the soles and palms; edema of the arms, legs, and face, and a diffuse and macular erythema over the edematous surface. The vegetative functions were normal, and the urine was not changed. The tendon reflexes were completely absent. The pulse was 120, the temperature normal. On the following days the bronchitis and the dyspnea became worse. A series of mercurial inunctions were given. At the end of a week the cough disappeared and there was a noticeable improvement in the general condition. The edema and erythema began to decrease; the patient was able to move the arms and legs very slightly. The inunctions were discontinued, and all the symptoms became worse. Stimulants were administered and the inunctions resumed. After a few days there was again an improvement of all the symptoms. She could flex the leg to 45°, and was able to lift the head somewhat. The inunctions were again discontinued for a week; the improvement continued, however, and the inunctions were resumed for a third time. The edema and eruption soon disappeared, leaving the skin in a dry, scaly condition resembling ichthyosis. The limbs were now quite movable, but the muscles were found to be atrophied. There was a slight contracture of the elbow. The general condition was very good, and the bulbar phenomena disappeared. The face became more expressive, the salivation ceased, the hyperidrosis disappeared. She was able to whistle; the tongue deviated slightly to the right side. The abdominal reflexes were re-established, but the tendon reflexes were still absent. On electric examination the patient had shown a marked diminution of both galvanic and faradic excitability. The further treatment consisted of the use of galvanic stimulation, of hot baths, salipyrin, expectorants, stimulants, and a series of mercurial inunctions.

In commenting upon this case the writer says that the onset was remarkable for its acuteness, and that the efficacy of mercurial inunctions was clearly shown in this instance. He says, further, that the case shows that Landry's paralysis is not a hopelessly fatal disease, even in the presence of severe bulbar symptoms such as were observed in this patient. The clinical picture of the disease will vary with the intensity of the infectious agent which causes the symptom-complex, and with the elective action of this infectious substance upon the individual centers. In acute cases the patient may die before the lesions appear, as the infectious material did not have time enough to produce organic changes in the centers. In subacute cases the anatomic lesions are those of a multiple neuritis. In chronic cases there will be progressive degeneration. Thus the disease may give different pathologic pictures according to the duration of the infection and the extent of the lesions.

II. **Indigestion in Infancy.**—By James Taylor. Reprinted from the "Annals of Gynecology and Pediatry," 1899, p. 203.

III. **Rheumatic Phlebitis.**—By Auguste Hoummel. (*Thesis*, Nancy, 1899). According to the writer this form of phlebitis is a pathologic entity. He reports twenty-eight cases which conclusively prove his assertion. Phlebitis is rare in children. According to Schmitt and Virchow the initial lesion is found in the endothelial lining of the veins and the inflammation spreads gradually until it reaches the outer layers of the wall. Periphlebitis is rare in rheumatic cases. The author thinks that the ultimate cause of the phlebitis is the presence of a parasite in the blood, but he is yet unable to prove this theory. The most prominent symptoms of rheumatic phlebitis are a sudden rise of temperature, pain, and the presence of a thickened cord on palpation. The pain is due to acute degeneration of the nerves supplying the lining of the vein. To feel the indurated vein, careful palpation is necessary sometimes, as the vein may be situated deeply. Edema is a later symptom, and its intensity is in proportion to the size of the affected vessel. If the edema persists for some time there may be complications in the form of ecchymoses, vesicles, and even gangrene of the skin. The author believes that the edema is due to the action of the toxins produced by the bacterium which is responsible for the thrombosis. Rheumatic phlebitis may occur during an attack of articular inflammation, or during convalescence from such an attack. It is most frequently found in the lower extremities, and in such cases is almost always curable. In other cases it occurs in the upper extremity and is almost always fatal. The treatment briefly consists of the administration of iodides and of the regulation of the diet. The regimen to be prescribed must include soups, milk, green vegetables, eggs, fruit, fish, and non-alcoholic drinks. Salted meats and game, as well as alcohol in any form, must be prohibited. The occurrence of pulmonary emboli can be prevented by immobilizing the limb on a wooden trough well padded with cotton and placed on several pillows to favor return circulation. The pain may be relieved by means of anodyne liniments. Against the edema, which appears later, the best measure is compression of the limb by means of a bandage which must be applied over a layer of cotton. The atrophy which follows in these cases may be treated by baths, which should be lukewarm at first, then hot, and followed by a short treatment with massage; salt baths and a sojourn at one of the seaside resorts are of value in convalescence.

IV. **The Treatment of Menorrhagia in Young Girls.**—By Armand Siredey. Reprinted from the *Journal des Practiciens*, December 16, 1899. The treatment will depend upon the pathologic condition which causes the hemorrhage, and it is rare that one is compelled to treat the bleeding directly. In case of extreme necessity, however, we may use very hot douches; simple or with gelatin solution, small quantities of fluid frequently repeated (200 cc.) Rectal irrigations with very hot water by means of the double current tube may be used for a considerable length of time. The application of ice to the abdomen, the administration of ergotin by mouth, by rectum, or hypodermatically, are measures which will seldom fail to arrest the bleeding. Above all, complete rest in bed is an essential part of the treatment.

When these girls come to the physician on account of an immoderate flow of blood at each menstrual period they must be put to bed during their menses and not allowed to get up for twenty-four to forty-eight hours after all signs of bleeding have disappeared. They must remain as quiet as possible and not even rise in bed for their meals. At the onset of each period the treatment must be renewed, and it may be said that the rest in bed is more difficult to enforce than any other measure, be it ever so disagreeable. It will be found, however, that as the treatment progresses there will be a shortening of the duration of the menstrual period and a diminution in the amount of blood lost. When the girls are allowed to get up they must be cautioned against too great physical or mental exertion of any kind and all such forms of exercise as bicycling, riding, sewing on the machine, prolonged walking, dancing, and running, must be for the time being prohibited. Later these may be allowed in moderation, and their effects upon the genital apparatus carefully watched.

The prophylactic treatment consists in getting the body into the best possible condition. This means proper hygiene, especially as to diet, exercise, clothing, bathing, etc. Cold sponging and frictions will help to restore to the skin its eliminative functions. Cold douches are excellent stimulants to the nervous and circulatory system, and, next to rest in bed, the most efficient measure. Baths tend to bring on the menstrual flow and must therefore be taken lukewarm rather than cold, and only be of short duration. Spices, game, preserved meats, alcoholic beverages, and tea and coffee in excessive quantity must be avoided. Fresh air, especially a sojourn in the country, if possible in the mountains rather than at the seashore, is very beneficial. We must not wait until anemia sets in, for then the treatment is more difficult.

V. Congenital Dislocation of the Right Hip; Reduction by the Lorenz Method.—By M. GOURDON. The great trochanter was 3 cm. below Nélaton's line on the affected side, and the child leaned perceptibly towards that side. The dislocation was reduced by the method of Lorenz. The upper part of the limb was incased in a plaster of Paris dressing which reached under the axilla, The limb is now of proper length and the head of the femur is firmly fixed in the acetabular cavity. The child walks well and does not lean towards the right side as formerly. The author concludes that Lorenz's method should be used in cases of congenital dislocation of the hip, especially in children under thirteen. In more than 50 per cent. of cases Hoffa and Lorenz obtained fair functional results after this operation.

VI. The Pathology of Milk.—By LESLIE EASTES. See Abstracts PEDIATRICS, Vol. ix, p. 171.

PRACTICAL NOTES

The Etiology of Appendicitis in Children.—COURTIN (*Revue Médicale*, March 14, 1900) reports two cases of appendicitis in children that are significant from the etiologic standpoint. In the first, a child aged 7, there was a remarkable coincidence of the presence of adenoids and the occurrence of attacks of localized pain in the right inguinal region which, curiously enough, also existed in another member of the family. The child had a short attack of subacute appendicitis, which subsided without operative interference. The author states that the occurrence of appendicitis, especially of such short appendicular crises, has been noted in several members of a family by Routier, Jalaguier, and Tuffier, and in Moscow a small epidemic of appendicitis was observed in a school. There seems to be some connection between adenoids and appendicitis in children. The appendix is rich in lymphoid follicles, and constitutes a veritable intra-abdominal lymphoid gland (Terrier). A hypertrophy of this adenoid tissue occurs in subjects with the lymphoid diathesis, and this predisposes to appendicular inflammations. The hereditary nature of the lymphoid diathesis explains the occurrence of the appendicitis in the members of the same family, and the prevalence of children with this diathesis in a particular school explains the miniature epidemic of appendicitis among the scholars.

The older brother of the patient referred to above had his adenoid vegetations removed a year ago, and since then the recurrence of his attacks of appendicular colic ceased. The patient himself will be operated on for adenoids in the near future.

The Use of Hydrogen Peroxide in Pertussis.—M. BAROUX *Gazette des Hopitaux*, March 24, 1900), speaks of a method of treating pertussis that has given good results. He uses the vapor of peroxide of hydrogen, which is obtained by the spontaneous volatilization of this substance in the sick-room. It is preferable to have two rooms, each containing about 60 cubic meters, one for use during the day, the other at night. The peroxide is used in the strength of 12 volumes, and is not diluted with water. It is used by pouring into a small graduate of glass or of tin about 80 grams of the liquid, and wetting with this every four hours two pieces of linen, one meter square each, folded several times and placed in deep plates. Only old white linen should be used. After being thoroughly soaked, these pieces of linen are suspended from cords stretched across the room as nearly as possible in the middle of the apartment. In addition he administers the following mixture:

℞	Tincture of Drosera	2.0
	" " Aconite	4.0
	" " Belladonna	3.0

The writer claims that by this method any case of pertussis may be cured in eight days, no matter at what stage of the disease the treatment was begun. Two children can be treated by this means at the same time in the same room. The method is inexpensive, and not dangerous to the attendants, nor disagreeable to the patients. The writer reports 13 cases in which it has proven efficacious.

PEDIATRICS

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VOL. IX. JUNE 1st, 1900. No. 11.

THE JACOBI ANNIVERSARY.

ADDRESSES DELIVERED AT THE BANQUET TENDERED DR. ABRAHAM JACOBI ON HIS SEVENTIETH BIRTHDAY,

May 5, 1900.

ADDRESS OF THE CHAIRMAN

DR. JOSEPH D. BRYANT.

Ladies, Gentlemen and Distinguished Guests:

The reasons for our presence here this evening require of your presiding officer no special words of explanation. Every participant in the spirit of the occasion within this spacious hall, and many without, whose presence we are denied, fully comprehend the significance of the event.

How fortunate indeed it is, in the affairs of this life, that worthy and well-directed efforts, addressed to the securement of personal and public betterment, frequently beget, though ofttimes somewhat tardily, the sentiments of abiding confidence and esteem for those who prudently proclaim their importance, and diligently labor for their attainment. The opportunities for achievements of this nature are everywhere present and so conspicuously clothed as to invite prompt recognition.

The declaration of the fact that he whom we now honor has throughout his career proved a vigilant and effective exponent of scientific advance and public excellence, suggests no denial, and venerates the occasion.

I believe, however, that it should be recognized at the outset that the observances of the evening are not devoted more to the learned gentleman, whom we so much delight to honor, than to the recognition of those ennobling virtues of which he is the embodiment, and which, when practised with faithful exactness, make of us better men, better citizens, and thereby establish a better world.

The notable examples of the beneficent labors of our esteemed friend, in the exercise of his professional skill and fraternal devotion, are singularly akin to each other in their inception and in their spirit.

In the one example he dedicated, through various channels of bounty, the full measure of his professional sagacity and fervor, to the alleviation and cure of the suffering incident to freedom of individual birth. In the other we are taught by the history of his fatherland that he bestowed a like measure of patriotic zeal to liberty's cause, fostering the birth of individual freedom!

To the former service the ripe abundance of his years has been given, to the latter the richness of his youth was well nigh sacrificed; with both, his name is indelibly recorded as the wise physician and the uncompromising patriot.

Numberless hapless poor of the common sphere of life mingle their joy with that of those of higher station, in acknowledgment of the bountiful aid and comfort experienced at his hands.

Medical thought and medical progress, here and abroad, bear abundant evidence of the potent influence on their status of the products of his studious, logical mind. Thousands of physicians, while students in medicine, and at bedside consultation, have gained inspiration and comfort from his teachings and advice in a degree equalled only by that of the fortunate recipients of his professional ministrations.

All along the avenue of commendable professional endeavor, directed to the attainment of proper public recognition, of increased knowledge and *esprit*, are noted exalted productions, to the achievement of which he contributed an untiring energy, guided at all times by sincere executive thought.

The justice of this statement is witnessed by the significant presence of the New York Academy of Medicine and its library, and further emphasized by the fact that, in the late effort to increase the latter, he supplemented a previous bountiful contribution by the major part of the recent gain.

The patriotic zeal of his early life was an earnest of his devotion to public duty during the later, and in neither instance has the cry of distress gone unheeded, while in both the weak have been strengthened, the wavering encouraged, and the justice of a cause assured by his word and presence. What he was to those of noble aspirations of the land of his birth, he has been and is to those of the land of his adoption.

Such as this, my friends, is something of the record of him whom we honor this evening, more of which, however, will be told by those whose co-operative experience and comradeship permit of completer and profounder utterance than my opportunity or knowledge affords.

I am prompted, however, to say to Dr. Abraham Jacobi himself: Though thy years be three score and ten, and each replete with a glorious harvest, so well hast thou performed thy useful missions, that we do hope and pray that life's Scriptural allotment of time may be long extended for thee, that not only the example for good shall remain, but good itself be correspondingly multiplied.

Dr. Frederic E. Sondern read a number of congratulatory letters and telegrams from universities, professors and distinguished medical men in all parts of the world, after which the following original poem, sent by Dr. S. Weir Mitchell, was read by Mr. Robert Underwood Johnson, Associate Editor of the "Century" Magazine:

MR. JOHNSON.

Mr. Chairman and Friends of Dr. Jacobi:—

I am at a loss to know to what I am indebted for the honor of being the medium of conveying this gracious message from one beloved physician to another, both ripe in all the honors that their own profession can bestow. Perhaps it is because, as an editor, I may be supposed to represent that branch of the medical profession which deals with literary surgery. The importance of this branch of the profession is certainly not to be ignored, when Columbia University, in its expansiveness, has given the degree of B. A.,—which formerly indicated literary excellence,—the new significance of Bachelor of Automobiles ! So by all means let Columbia establish the new degree of D. L. S. The Doctor of Literary Surgery, let us observe, has his patients, his out-door patients—patients, indeed, to judge from their number, from all out-doors. He, too, must look attentively at the tongue—the mother-tongue—of his patients, and must consider the dull aspect of their I's; he must address himself with the sharpened tool of his profession—the blue pencil—to the excrescences caught from the contagion of the French decadents, and prescribe for the sluggish current of a narrative clogged by the accumulated dust of realism. The difference between the Doctor of Literary Surgery, and his confrere in good and regular standing is that, while the former must feel that the body he is working on is worth saving, the latter—with a larger measure of divine pity—thinks none of his suffering brothers or sisters unworthy of his devotion.

I would gladly preface the reading of this admirable tribute by some token of my own appreciation of the respect in which I bear our distinguished guest, but in twenty-five years of experience in dealing with literary expression, I have yet to know what words would be appropriate or adequate to set forth my gratitude to the man to whose wise skill and tender care, under heaven, I owe the life of a child.

ABRAHAM JACOBI.

Medicus, Magister, Amicus.

No honors hath the State for you whose life
  From youth to age has known one single end.
Take from our lips two well-won titles now,
  "Magister et Amicus"—Master, Friend.

From the gray summit of attainment you
  Look on the rugged path you knew to climb.
Take, with our thanks, for high example set
  The palm of honor in this festal time.

Constant and brave, in no ignoble cause,
  The hopes of freedom armed thy sturdy youth;
As true and brave in the maturer years
  Thy ardent struggle in the cause of truth.

Nor prison bars, nor yet the lonely cell,
Could break thy vigor of unconquered will;
And the gray hairs which build as cruel walls
Have found and left thee ever victor still.

Ave Magister! take from us to-night
The well-earned praise of all who love our art
For this long lesson of unending work,
For strength of brain and precious wealth of heart.

Your busy hand gives much; but, oh, far more,
The gallant soul that teaches how to meet
Unfriended exile, sorrow, want, and all
That crush the weak with failure and defeat.

We gave you here a home: you well have paid
With many gifts proud freedom's generous hand,
That bade you largely breathe a freer air
And made you welcome to a freer land.

Ave Amicus! if around this board
Are they who watched you through laborious years,
Beyond these walls, in many a grateful home,
Your step dismissed a thousand pallid fears.

That kindly face, that gravely tender look,
Through darkened hours how many a mother knew!
And in that look won sweet reprieve of hope,
Sure that all earth could give was there with you.

Ave Magister! Many be the years
That lie before thee, thronged with busy hours!
Ave Amicus! take our earnest prayer
That all their ways fair Fortune strew with flowers.

DR. WM. H. THOMSON.

After I had accepted the Committee's request to speak to this toast—Dr. Jacobi as a physician,—I soon found myself utterly bewildered by the question how I should do it, solely on account of a little proposition which entered into the case. It is easy enough to speak *about* Dr. Jacobi as a physician, but to speak *to* him on this topic, that is, with him present, called for a special skill in saying things, for which I have no pretensions whatever. I would do it by the hour, if I could speak in a language once native to me—the Arabic. In Arabic I would tell him to his face that he was like the mighty lion, like the graceful gazelle, the crushing thunderbolt, the effulgent sun. In the words of the poet I would exclaim—with the certainty, however, that when I got through, that he knew that I did not mean a word that I said. But our awkward English is the last language on earth to help one say what he does not mean. What I am going to say now, therefore, I mean every word of it, be the consequences what they may.

When I eame to this city, now thirty-eight years ago, I knew about Dr. Jacobi already, for his and Dr. Noeggerrath's work on Diseases of Children, had greatly raised my expectations as to the manner of man he must be. But when I came to hear him talk to a company of New York physicians, it became a lesson to me afterwards to beware of first impressions. Somehow his remarks struck me as betraying a consciousness that he was a sort of stray archangel, who had allowed the fates to let him mingle among us for awhile. But the truth was he was immensely above the majority of his auditors in one element of medical knowledge. Those were days when our medical colleges turned out doctors by scores and hundreds who would not now pass a first year's examination. I once sat by a fellow alumnus who did not know that the carotid arose from the aorta, and another who when asked about the uterine arteries, said that they arose in the female. It is difficult now to speak with patience about the facility with which the crowds of all-round ignoramuses would then graduate from our medical colleges, on account of the system which obliged each institution to depend solely on the fees of students for its support.

There was therefore nothing which the profession of this country needed at that time so much as an object lesson of the high value of a university education to a medical man. The great majority of our students took up the study of medicine as they would learn a trade, and the sooner they could get at it as a livelihood, the better. That the service, and the art of medicine as well, required not only original mental equipment, but also a previous mental training to be measured only by years of thorough and varied exercise and discipline, such as a university education alone can impart, was but little appreciated. Such a long and trying preliminary was regarded as altogether too slow for pushing Americans to have any patience for. A common school education was supposed to be enough, and then two winter courses of lectures at most, sometimes less even than that, and in which the second course was just the same as the first,—this and nothing more comprised the entire period of alma mater's gestation, and she brought forth her motley progeny.

To demonstrate the utter and absurd inadequacy of such a system of producing physicians needed that a Dr. Jacobi should be in evidence as a contrast. It is to him, and to others like him, who have brought from their native Europe their personal demonstration that there is no short cut to a scientific training, that the American profession owes a debt of gratitude, and this is a fit occasion to acknowledge it. Now, at last, it is widely recognized that the first class physician must also be a first class scholar; that only the scholarly mind can grasp the immense mass of pure science which medicine demands of every one of her votaries; and finally, that it is well worth all the time and patience and effort to become a scholar first, and a physician afterwards; look to Jacobi.

But I am to speak of Jacobi as a physician. Well, my shortest way to do that is to recall my impressions of him when a physician once called us both in consultation on a case pneumonia. After a series of questions about the history of the case, which no lawyer could excel for inquisitiveness, Dr. Jacobi took his seat close to the patient, and then proceeded to gaze at him with a gravity, a fixity, and a prolonged pause of solemn silence which made him appear as a perfect human picture of the old bird of Minerva lighted by the bedside. He then felt his pulse, with the same expression on his face of infinite profundity. Then he evidently was counting the respirations as watchfully as a miser would his dollars. And then he went through a most systematic course of physical examination of heart and lungs, whose thoroughness was only equalled by its gentleness.

Now, if there be one thing particularly trying to our inner man when thus engaged with a colleague, it is to find out on comparison of views, how much better he has observed than we have, or how much better he had observed what we also thought we had observed. The pinch lies in the fact that he who really beats in observation is the better man of the two.

From Hippocrates down, the masters with us have been great observers. And this I can say of Jacobi as a physician,—that not only is he one of the greatest observers that I ever met, but that he excels in the still more difficult accomplishment of forcing . . . to wait humbly and patiently as a servant on observation, not presuming to speak till observation permits.

But there is another side in Dr. Jacobi's life as a physician which I am entitled to speak of. We, both of us, have passed through a period in the history of medicine more marked by changes and advances in medical knowledge than in any previous period whatever.

Now, adequately to encounter such crises in knowledge, requires an intellectual flexibility which is congenitally denied to many men, while with others such flexibility rapidly declines as they advance in years. Now, firmness of conviction is better than instability of conviction, but that, better than all, is that Damascus-blade-like, mental quality, in which the mind can be bent at will in any direction desired, and yet surpass everything else in its own intrinsic and marvelous cohesion. In Dr. Jacobi's case the pace of medical progress has never been too fast nor too great for him to find it hard to bend his mind to complete adaptation to its every turn.

I have known for example, several of his eminent contempories in the past who till their dying day could not perfectly adapt their minds to the role of micro-organisms in disease. But the long list of Dr. Jacobi's works and contributions reflect everywhere all the phases of medical progress and discovery since he became a physician. To pass through such a period as Dr. Jacobi has done, and to be found always abreast of the stream, neither stranded on its banks, nor carried in its eddies, is a remarkable testimony to the innate strength of his understanding.

But equally so has he shown that he possesses the inestimable faculty of sound judgment, for the fact is that great discoveries in medicine never come forth without being the occasion, somehow, of the birth of many temporary and yet mischievous fallacies. When the god Æolus gave to Ulysses the bag in which were tied up all the undesirable winds which would prevent his reaching Ithaca, Ulysses soon after embarking, unhappily took a nap; whereupon his stupid companions thought they would find out what treasures were tied up in the bag. They loosened the string, and out rushed all the winds together, to poor Ulysses' abiding grief. So it often seems that we cannot gain some good new breeze, which carries our ship in her right course, ere a set of airy theorists are let loose upon us, each with a separate blow of his own, which requires a clear-headed pilot fully to cope with. And for this I can say, if any one wants to know what the latest guest of wind amounts to, refer him to Jacobi.

Finally, I cannot close talking about Jacobi as a physician without a word about him as a friend. He and I have known each other for over thirty years. During that time, our medical body politic, like every other living body, has occasionally shown some pathological symptoms. In our studies on micro-organisms, we sometimes find kinds which secrete a sticky exudation, which enables them to clump together, or even to form little rings, which give rise to wretched troubles by their clogging up important channels, which ought to contain something much better than they. Now, every one of us can say that there has never been anything zooglitic about Jacobi. He has always been the independent, and always clearly recognizable man, Abraham Jacobi, and one whose place on any question, which involved honor or fair dealing could unhesitatingly be told beforehand. As an old friend, therefore, who has had many occasions to experience his worth and steadfastness, I rejoice at this opportuuity of congratulating him on the happy event of this evening, the most memorable of any in the history of the New York profession of medicine.

DR. WILLIAM OSLER.

Gibbon very wisely says that the only one person capable of passing a correct judgment upon the works of an individual is the author himself. Who knows so well as he the merit of the performance; who so interested in them? Fully agreeing, as every author should, with this authoritative statement, I must begin with an apology to Dr. Jacobi for an attempt to usurp his function, but under the circumstances he will forgive me.

A first and most surprising impression in a review of our friend's literary work is its very modest amount—only three or four volumes and some sixty major monographs and essays. Knowing the encyclopedic character of the man, how commendable seems this moderation! The first publication against his name is the Bonn thesis, 1851, "*Cogitationes de Vita Rerum Naturalium.*" I doubt if Dr. Jacobi could now appreciate the Cogitationes. The thesis, which is modest only in size, has all the dogmatic freshness of the production of a youth of one-and-twenty. The conclusion of the whole matter is given in a few brief lines at the close: "*Nil extra naturam, nil extra materiæ leges,*" and there is a third and concluding phrase which I refrain from quoting. It is interesting to note so early in his career the influence of the great master, Rudolph Virchow, from whose writings several quotations are given. With one phrase I remember to have been caught years ago: "*Die Wissenschaften und der Glaube schliessen sich aus.*" Science and faith have nothing to do with each other, and only worry comes from a neglect of that strong statement by Tennyson of their essential divergence:

> "We have but Faith, we cannot know;
> For Knowledge is of things we see."

Then comes the most impressive period in our author's life—silence for seven or eight years, during which I can find in indexes and catalogs nothing against either his name or his reputation. It is unique, almost, in the literary history of our profession. Would that this more than Pythagorean period of self-restraint could be emulated to-day! But think of the desolation to editors if all the graduates of all the schools of all these States thought and worked, but did not write for seven years after their graduation!

In this audience it seems almost superfluous to speak of the professional writings of Dr. Jacobi. Of his larger works the "Diphtheria" monograph and the "Treatise on the Therapeutics of Infancy and Childhood," have been guides and counselors to thousands of physicians all over the land. Nowhere has there been a better student of diphtheria or a sounder exponent of the subject than Abraham Jacobi. One of his earliest works, the contributions in connection with Dr. Noeggerath, I could not find. Dr. Jacobi mentioned the other night in Washington that it had cost them about a thousand dollars to publish them. I understand that it has disappeared absolutely. It is not known whether Dr. Jacobi possesses copies, nor is it known how much it cost the authors to buy up the entire edition, which is the only possible explanation of its rarity.

Of the monographs and special articles I should like to speak at length were there time, particularly of the splendid contributions upon the intestinal disorders of children. The monograph on the thymus gland is a model of careful research. You know as well as I of his scholarly and sound contributions in the various systems of medicine which have appeared from time to time. Of the many occasional addresses, that entitled *Non Nocere*, before the International Congress at Rome, and the appreciative sketch of Virchow, are models of their kind. I was much interested in one well-worn booklet in the Surgeon-General's Library—the earliest of his contributions in the collection of 1860 or 1861—in which a series of cases is narrated, and in which he gives a statement of how to teach the subject of pediatrics in practical classes in the dispensaries. In this he was, I believe, a pioneer in the United States.

I come now to what may be considered the most important part of his life's work, that relating to infant-feeding. It may be said that the safety of a nation depends on the care of its infants, and no one in this country has done so much for their bodily welfare as Dr. Jacobi. Had they any other language but a cry, countless thousands of colic-stricken babes and sucklings would ordain great praise to him this evening. For more than thirty years we find this problem engaging his closest attention, and he has never tired of urging proper methods upon the profession and the public—methods which have always been characterized by his strong clear sense. There is no single question before this nation to-day of greater importance than how to return to natural methods in the nature of infants, and you will pardon me if I here make a slight digression. The neglect of the natural mode is an old story in Anglo-Saxondom. St. Augustine, so Bede tells us, wrote to Pope Gregory complaining that the question of infant-feeding was worrying him not a little. I understand that a systematic effort is to be made to supply to every child born in this land its rightful sustenance for one year at least. Under the auspices of the Pediatric Society and the Woman's Christian Temperance Union, a Woman's Infant-Suckling Union is to be established which will strive to make it a criminal offence against the State to bottle-feed any infant, and which will provide in large and well-equipped sucklingries ample sustenance when a mother from any cause is unable to do her duty. Rotch tells me that the action on the part of the Pediatric Society has been influenced by an exhaustive collective investigation on the future of bottle-fed babies, in which it is clearly shown that intellectual obliquity, moral perversion and special crankiness of all kinds result directly from the early warp given to the mind of the child by the gross and unworthy deception to which it is subjected—a deception which extends through many months of the most plastic period of its life.

According to these researches you can tell a bottle-fed man at a glance, or rather at a touch. *Feel the tip of his nose.* In all sucklings, the physical effects of breast pressure on the nose are not alone evidenced in the manner set forth so graphically by Mr. Shandy, but in addition the two cartilages are kept separate and do not join, whereas in bottle-fed babies, in whom there is no pressure on the tip of the nose, these structures rapidly unite, and, in the adult, present to the finger a single sharp outline, entirely different from the split, bifid condition in the breast-fed child. The collective investigation demonstrates that all silver democrats, many populists, and the cranks of all descriptions have been bottle-fed, and show the characteristic nose tip. Utopian as the scheme may appear (and directly suggested, of course, by Plato), who can question the enormous benefits which would follow the substitution of such sucklingries for the present Walker-Gordon Laboratories and other devices—benefits untold to helpless infants; blessings to thousands upon thousands of women whose energies would be directed into their natural lactiferous channels, and, most important still, a gradual elimination of those pernicious bottle-fed influences, to which may be attributed so many evils both to the State and to the individual.

Looking over Dr. Jacobi's books and papers, one gets the impression of an honesty of purpose and a sincerity in them all. There is no clap-trap, no gallery-play, but a faithful administration of an intellectual trust, and, what is more, the professional spirit is reflected in them always on the nobler side. There is a double meaning in the well-known line:

> "Heard melodies are sweet, but those unheard are sweeter."

and let us hope that what may come from his pen in the future may excel his past performances. A volume of poems, "*Songs in Silence*," written *in der Stille* of his prison-house, would be most acceptable, or a novel (of which Dr. Janeway has just spoken to me) in three volumes, or, better than either, his "Jugenderinnerungen," which he really should leave to us as an evening legacy.

To speak seriously, this magnificent demonstration is a tribute not less to Dr. Jacobi's personal worth than to the uniform and consistent character of his professional career. The things which should do not always accompany old age. The honor, love, obedience and troops of friends are not for all of us as the shadows lengthen. Too many, unfortunately, find themselves at seventy "nursing a dwindling faculty of joy," amid an alien generation. Fed on other intellectual food, trained by other rules than those in vogue, they are too often, as Matthew Arnold describes Empedocles, "in ceaseless opposition." Against this interstitial decay, which insidiously, with no pace perceived, steals over us, there is but one antiseptic, one protection, the cultivation and retention of a sense of professional responsibility. Happiness at threescore years and ten is for the man who has learned to adjust his mental processes to the changing condition of the time. In all of us senility begins at forty—forty sharp—sometimes earlier. To obviate the inevitable tendency, a tendency which ends in intellectual staleness as surely as in bodily weakness, a man must not live in his own generation. He must keep fresh by keeping in contact with fresh young minds, and ever retain a keen receptiveness to the ideas of those who follow him. Our dear friend has fortunately been able to do this in a remarkable manner, since he is one

> "Whose even-balanced soul
> Business could not make dull, nor passion wild,
> Who saw life steadily and saw it whole."

HON. SETH LOW.

Mr. Chairman and Friends of Dr. Jacobi:—

For thirty years Dr. Jacobi has honored the College of Physicians and Surgeons, and through it Columbia University, by faithful and brilliant service. To-night the famous old medical school is represented here by the Chairman of its Faculty, and the University by its President, to join with you in doing honor to Dr. Jacobi.

The Trustees will not allow this year to pass, I know, without recognizing in a formal and an official way, both Dr. Jacobi's professional success as a teacher in the medical school, and his distinguished standing as a man of letters and cf science. But I am here to-night to speak for his colleagues of every Faculty, and these words are the words of friends.

Everybody who was fortunate enough to hear the paper which Dr. Jacobi read last year, at the seventieth birthday of his friend, Mr. Schurz, must have learned something, not only of Mr. Schurz, about whom the paper was written, but also about Dr. Jacobi, the man who wrote it. I, at least, got a clearer conception that evening than I had ever had before,—although I had not known him and met him on many occasions—of the man of ideals; the man of such patriotic impulses that he left his own country in order to come here and spend his life in the freer conditions that, at that time at any rate, he found in America. He also revealed himself then, as I recall it, as a man of tender but true friendships; as a man of quiet but real courage; and as a man who would be faithful to any cause to which he once plighted his faith.

These are the qualities, first of all, which make Dr. Jacobi the man he is; these are the qualities that have helped to make him a good teacher. I do not mean to say that a man can teach science without knowing anything about it; but I do mean that a teacher must first of all be a man if he is to be a good teacher.

We have heard of Dr. Jacobi of a physician. That, again, is another element of his power as a teacher. There be those —it is said—who preach, but do not practise. The physician practises, and in practising, he teaches whether he will or not. Dr. Jacobi has added to his class-room work, this sort of teaching, bringing to his equipment that sort of education which a man gets by absolute fidelity to his profession, by constant readiness to move forward with it, as Dr. Thomson has pointed out. He has merely added to that sort of teaching—the teaching of his classes.

It has sometimes occurred to me to wonder why so many of the ablest physicians take the time to teach. I think it is partly because they cannot help it. The man who learns by the practice of his profession what a man can learn only in that way, feels that he must teach some youth who is to follow him, that he may practise the better in his turn. And if Dr. Jacobi has been an educator because he has been a good physician, so also I think he has been an educator of rare quality because he has been distinctly a man of science. When a man ceases to learn, his value as a teacher has come to an end. A man who "knows it all" is the last man in the world to whom any one of us will go for information or instruction. But the man whose great learning, studious habits, and scientific training have made him feel how little he knows, and how much more there is to be known—this is the man that can wake up the zeal for learning in the student, and can show him the only path by which the student in his turn may become a master.

These are the traits of life, if you please, which have made Dr. Jacobi the teacher. His relation to instruction in his specialty of the diseases of children, many of you know much better than I. But I may at least have the pleasure of referring to one incident, of which some of you may not know—certainly which has not been referred to here—which serves to illustrate his real eminence. In 1894, Prof. Henoch, of Berlin, resigned the chair of Pediatrics, on account of his advancing age. The University of Berlin invited Dr. Jacobi to be his successor. The invitation was creditable to him as a man of science; it was the official recognition in the domain of higher education that Dr. Jacobi, in his own branch, stood at the head. Most men, it seems to me, would have felt inclined to accept so flattering a call; but Dr. Jacobi, with the simplicity that is characteristic of him, declined it, simply saying America had given to him the opportunities of life by which he had profited, and he desired to make to America what return he could.

I once knew a man who told me that his brain had cracked twice, by reason of the magnitude of the thoughts which he had entertained. I repeated the remark to some one, who said to me that the next time I saw him I had better suggest to him that he should have his head "hooped." Dr. Jacobi never needed that safeguard, for he has kept that great head of his *intact and safe* by his commanding spirit.

I can give you another illustration of Dr. Jacobi, the teacher; more homely, perhaps, than that I have mentioned, and yet not less creditable, I think. It has been his good fortune to arouse in some one a feeling of such loyalty and devotion to him—I may not say whether this is a man or a woman—it is one of the delightful secrets with which presidents of universities are sometimes favored—as to lead this person to establish an Abraham Jacobi Ward for Children in the Roosevelt Hospital. In that ward Dr. Jacobi carries on now his bedside instruction. At the end of the first year of that opportunity, all the students in his class united in an address to him, assuring him that they had greatly profited by his instruction, and telling him how highly they valued all he had done for them and been to them. If a teacher wakens that sort of a response in the student, the quality of the teacher speaks for itself.

I wish that it were possible to give to Dr. Jacobi the opportunity to practise his art, and display his rare powers, on a wider scale than has been practicable; and if it has sometimes occurred to him to wonder why he should have declined perhaps one of the greatest opportunities in the world as a teacher, in order to satisfy himself with the meagre opportunities thas are yet accorded in America for clinical instruction of this kind, I would like to point out to him that if he has not himself entered into the promised land, at least his eyes must have seen enough to make him believe that he has done much to bring the people nearer to it. When he began to teach thirty years ago, the condition of medical education was not greatly different from that which Dr. Thomson has described in the early fifties. Since then the advance has been noted. I do not think that we have yet quite caught up with Europe—certainly in the matter of these clinical facilities. But I think the process is going on in the matter of education, as in other things. What man fifty years old can remember the rickety character of the roadbeds of the railroads and the poor equipment of thirty years ago—how every one of us, as we went abroad, felt that the work there was so much more substantially done. But there came a Commodore Vanderbilt into the railroad history of this country. When he had gotten possession of the stock of the Hudson River and Central Companies, some one said to him—what do you mean to do with it? He said, I mean to dry up the Erie Canal and to drive every boat off the Hudson River. He did not mean it literally, of course, but he did mean to express his faith in the possibilities of transportation by the steam road. Now precisely that sort of development has taken place in the educational world; in medicine, and in every other direction. It has been such service as Dr. Jacobi has rendered, and such service as his colleagues have rendered, that is rapidly ushering in the day when the medical education of the United States will not be second to that of any country in the wide world.

HON. CARL SCHURZ.

About a year ago I passed through an ordeal very like that which my friend, Dr. Jacobi, is enjoying now. I know, therefore, from personal experience what it implies. To find oneself congratulated upon having arrived at an age, which according to correct notions, marks the terminus of human vitality; to have it complimentarily announced that one is now classed among the ancients, whose right to claim a place on the stage of the present active generation, may be considered open to question; to feel oneself still pretty young and capable of activity as well as enjoyment,—as I am sure Dr. Jacobi and I do,—and then to remember that you younger men may smile at us for indulging in such an amiable illusion, while you comfort us with the patronizing remark that we are remarkably well preserved—all this is an entertainment of not altogether unmixed hilarity. And then, also, to be pelted with merciless exposure of all one's virtues, and accomplishments, and endeavors, and achievements, compliments which modesty shrinks from accepting and which politeness to kind friends forbids to decline—well, one appreciates it very highly and with sincere gratitude, to be sure, but it is an experience, to say the least, of complex sensations.

I therefore offer to my friend Jacobi the sincere and profound sympathy of one who knows. I well understand that troubled gaze of his which he fixes abstractedly upon the table cloth before him or upon the chandeliers above him, while the floods of eulogy are beating relentlessly upon his devoted head. I understand the peculiar dread with which no doubt he has seen me get upon my feet—me, a person that has been acquainted with him for fully fifty years,—and who, as he is well aware, knows more of and about him than anyone else here present. Still, in one respect he need have no fear. I shall not reveal about him any obnoxious secrets. Do not understand me as meaning that I could if I would. No, I would not if I could, being mindful of the proprieties of the occasion. I am going to tell the simple truth; and that he will have to bear as a brave man with becoming fortitude.

Yes, of Dr. Jacobi's friends assembled here, I am, no doubt, the oldest, probably the oldest in years, and certainly the oldest in friendship—for that friendship can look back upon just a half century of uninterrupted, and, I may add, unclouded duration. It was in the year 1850, in the German University town of Bonn-on-the-Rhine. that we first met. He was then still a student of medicine in regular standing. I was already an exile, but had secretly come back to Germany, engaged in a somewhat adventurous enterprise connected with the revolutionary movements of that period—an enterprise which made it necessary to conceal my whereabouts from those in power, with whom my relations were at the time, to speak within bounds, somewhat strained. I had the best reasons for desiring to avoid persons whose ill-will or indiscretion might have brought me into touch with the constituted authorities. It was then that a "mutual friend" introduced Jacobi and me to each other during a dark night in an out-of-the-way little garden house, having described him to me as a young man who could be absolutely depended upon in every respect and under all circumstances. And as the man who can be depended upon in every respect and under all circumstances, I have known and loved him ever since; and if we could live together another half century, I should be ready to vouch for him in that sense every day of the year and every hour of the day.

At the period of which I have been speaking our intercourse was short. We traveled together a day or so—he going to Schleswig-Holstein where, as a budding physician, he expected to do service in the capacity of a volunteer surgeon in the war then going on, and I to the field of my operations. Several years later we met again in the city of New York. He had in the meantime suffered in our native country long imprisonment for his active and self-sacrificing desire to make the people free and happy; and then he sought and found a new home in this great republic in which, if the people do not create or maintain conditions to make them free and happy, it is their own fault.

I have been asked to speak of Dr. Jacobi as a citizen, and I may say that the manner in which he got into jail in the old country—for I have to admit the fact that he did serve two years in state prisons, whatever you may at the first blush think of it—indicated at that early day very clearly what kind of a citizen he would make in this republic. He was one of the young men of that period who had conceived certain ideals of right, justice, honor, liberty, popular government—but which they cherished and believed in with the fullest sincerity, and for which they were ready to work, and to suffer, and, if necessary, to die. Theirs was a devotion, too, wholly free from self-seeking ambition—a devotion which found all its aims, and aspirations, and rewards within itself.

Of that class of young men he was one, struggling with poverty and no end of other discouragements in his laborious effort to become a good physician. He knew well that political activity could not possibly help him in reaching that end, but might rather become a serious obstacle in his path. Neither had he any craving to see his name in the newspapers, or to strike an attitude before the public. But moved by a simple sense of duty to his fellow-men, he associated himself, and unostentatiously co-operated with others in advocating and propagating the principles which formed his political creed. His convictions might have been honestly modified or changed by super-study, or larger experience, but they would not yield an inch to the reductions of fortunes, or to the frowns or favors of power. And as nothing could prevail upon him to renounce or even equivocate about the faith he honestly held, he went to jail for it, suffering his martyrdom, with that inflexible and at the same time modest fortitude which is the touchstone of true manhood. Thus to have served a term in prison was with him a mark of fidelity to his conception of his duty as a citizen.

And that has been the type of his citizenship ever since. To be sure, the danger of being clapped into jail for the assertion or propagation of one's opinions is not very great in this Republic—at least, not yet. But we often hear it said—and, I fear not without reason—that in our democracy as well as in others, public opinion—a term which is not seldom used to dignify a widespread prejudice, or an unreasoning craze—exercises a tyrannical sway, and that there are many people whose dread of becoming unpopular, or of incurring the displeasure of the influential elements of society, yield obedience to that power, as readily as if it were a monarch with soldiers and jailers at his heels. Indeed, the moral courage of conviction against adverse currents is the most necessary, but, I apprehend, not the most general of civic virtues.

Those who know our friend here as well as I do will agree with me that he possesses that civic virtue in a rare degree, and may emphatically be called a man never afraid, a man of that grim independence which is bent upon thinking right and doing right, no matter what others may think or do. There has hardly been an earnest effort for the enforcement of correct principles of government, or for the vindication of justice and right, or against evil practices or demoralizing tendencies in our public concerns, since Dr. Jacobi became a citizen of this republic, that he did not vigorously support in his effective although quiet and unpretentious way, no matter whether other people liked it or not, or what it might cost him. I need not go into detail and tell of his services as a member of the famous Committee of Seventy, or as a co-worker with the Chamber of Commerce in cholera times, and in various other ways which, although equally, if not even more meritorious, have never come to public notice. Moreover, he was not only animated with a warm enthusiasm for high ideals and the accomplishment of important public objects, but also with that healthy righteous wrath which abhors and attacks not only sin in the abstract, but the sinner in the concrete—a wrath far more wholesome to a democracy like ours than that facile and pliable tolerance which holds that sin is bad, to be sure, but that to disturb a sinner of respectable position would be to indulge in ungenteel personalities.

As in the realm of science, he has always been the personification of scientific conscience, so in the realm of civic duty he has always been the personification of civic conscience, not one of these optimists who always comfort themselves with the belief that everything, however bad, will come right without a struggle; nor one of those pessimists who, whenever anything goes wrong, give up everything as lost and whine that further effort is useless—but a sturdy patriot who, whatever discouragements these be, never despairs of the republic, and remains ever ready to do his best and to sacrifice without counting, and to stand in the breach.

In him we see one of the adopted citizens whose peculiar patriotism is not always quite understood and appreciated by our native friends. It may strike some of you as somewhat audacious when I say that the adopted citizen may in a certain sense be a more jealously patriotic American than the native. And yet is is true. The adopted citizen usually preserves a certain sentimental and reverential attachment to the country of his birth. But just because of this many of them are especially anxious to see the country of their adoption by its virtues and the high character of its achievements justify their separation from their native land, and enable them to point with just pride to the choice they have made. They may for this very reason, when they see the character of their adopted country put in jeopardy, or its good name in the family of nations endangered, resent this and stand up for the cause of right, and of integrity, and of honor in their adopted country, with an intensity of feeling even greater than that which ordinarily animates the native.

Neither is it always a mere matter of necessity or of interest that keeps the adopted citizen here. Full of attractions and of opportunity though this country be, it may happen that material interest or legitimate ambition suggests a return to the native land; and of fidelity to the adopted country, with which such temptations are sometimes resisted, Dr. Jacobi has furnished a striking example. Any man of science would consider it a high honor to be called to a professor's chair in one of the great universities of Germany. But when, some years ago, Dr. Jacobi received an intimation that such a position in the greatest of them all was open to him, he subdued the pride he might have felt in appearing in the same country in which he had adorned a political prisoner's cell, now crowned with high distinction, and he promptly resolved that, having cast his lot with this Republic, here he would stay. Surely his title to American citizenship, and to the name of a patriotic American could not be more complete.

I feel now that I ought to stop, out of regard for his feelings; for if I were to say all that I know of him as his old and intimate friend, I might too severely shock his modesty, as he shocked mine on a similar occasion a year ago. But, after all, I find no fault with him for that; for there can hardly be a more wholesome and comfortable institution among men than a firmly established, well regulated, honest and steadfast mutual admiration society. And if by this time you have concluded that my friend Dr. Jacobi and myself have formed such a club of two, and find no end of satisfaction and pleasure in it, I shall not demur. I might even reveal some of the secret details of the comforts of our companionship, and say that frequently, when we had written something for publication or in print, or for delivery in speech, we read it to one another before it came out. You will admit tha a friendship which has for many years endured this, can endure anything. To be sure, the ordeal was mitigated by the fact that we not only did not bore one another in that way, but we rather enjoyed it; for we always, reciprocally, found our productions quite excellent, whatever others might think of them. I trust my friend will pardon me for taking unusual liberties with him in such public revelations of private intercourse, for these are liberties which without offence may be taken by an older man with one so much younger.

To conclude, for fifty years I have loved him and been proud of him as a man of science of whom I know how learned, how conscientious, how indefatigable, how helpful, and how justly renowned he is; as a citizen of whom I know how patriotic, how courageous, how unselfish, and how public spirited he is; and as a friend whose nobility of heart only those can cherish and esteem as it deserves who know him best. And I can hardly describe how profoundly happy I am to be permitted to take part in this tribute which so many of the best men of the country are here assembled to pay to such genuine, sterling, and eminent worth.

DR. ARPAD G. GERSTER.

The Presentation of the "Festschrift."

Mr. Chairman and Gentlemen:

It is nearly two thousand years ago that the poet of the Augustine era, Horace, penned the boastful but true words: "*Exegi monumentum aere perennius.*" Everyone knows how the prediction has been literally fulfilled. However, the poet's conviction would not have been thus confidently expressed, had there not been underlying it the solid fact, that of all man's works, there was none more enduring than the written word. It is not strange, therefore, that when a group of five men met a year ago last February, to consider a fitting way in which the seventieth birthday of Dr. Jacobi ought to be celebrated, that the idea of publishing a "Festschrift," that is, a collection of literary contributions, furnished by a number of willing friends and colleagues, was immediately adopted.

Mr. Chairman, I hold in my hand a volume containing the scientific contributions of fifty-three medical men of note, men representing two continents and eleven nations. This tribute of the veneration and esteem of the authors is adorned by a splendid etching, the product of the masterly needle of James D. Smillie, a faithful image of the Ambrosian features of the original. I trust that the contents of the volume may be found as worthy of him whom they are meant to honor, as their outward garb.

Mr. Chairman, permit me, through you, to ask Dr. Jacobi to accept this volume as kindly as it is offered. Let it serve as the outward token of our affectionate regard. Permit me also to extend to him the sincere wish for his long continued health and happiness. May it be granted to him to enjoy the sunny afternoon of a useful life in the mellow atmosphere of philosophical contentment, surrounded by those whom he loves best.

Vivat, crescat, floreat!

ADDRESS BY A. JACOBI, M.D., LL.D.

I wish I could proceed from. man to man and in silence press your hands, for words of mine do not suffice for the throng of feelings that swell my heart. Before me I see men in all high walks of life, members of my own and other professions, I see statesmen, poets, university professors, and presidents—to me this illustrious assembly is a university indeed. Of medical men there are least two generations, few though of mine, but many of my own pupils who long ago became my masters and my teachers.

Occasions like this, which is unique in its brilliancy and scope, are apt to try a man's soul. Your appreciation and applause is elevating and encouraging, but there is an element in it of a sorrowful sense of humiliation and discouragement, inasmuch as no man I believe can be, and I certainly am not, conscious of deserving them to the degree they are tendered. I take it for granted that I am expected to speak, in part, I suppose, of the topic of the evening—myself. But how, and what? I have been eulogized as if I were dead Not being quite dead yet, I should not join in the praise. On the other hand, to speak derogatorily of my doings would be discourteous to those who expressed their good opinions. If, after all, you will be content with hearing a plain talk on some of the things that happened to me and to the profession this half century, I shall consider it an honor to be listened to.

When I speak to you of my aspirations on my arrival here nearly forty-seven years ago, I probably say nothing new to those who once found themselves in a strange world, ignorant and not known, without relatives or social influence. I wanted both from necessity and from impulse, work in my profession. Young years had ripened in me the ambition to be useful either to the individual or to the masses. This is what had led me into the political life of the German revolution. I wanted to be useful to the sick, and in order to reach that aim strove to reduce my ignorance, which aside from being a natural gift was vastly increased in the wasting idleness of years in a Prussian state prison. Aspirations, however, will grow with widening horizons. When I came here I knew nothing of American medicine. It was simply unknown in Europe. Nor was America much better informed in regard to European medicine. With the exception of a few translations from the French and a number of English re-publications,—called American editions,—European literature was but scantily known and appreciated except by the few who, like Jackson and Oliver Wendell Holmes, had enjoyed the opportunities of being with that great master, Louis. I felt I might help in building a bridge between the literature of the two hemispheres, and Stephen Smith took my first extracts. That office was rendered more unnecessary from year to year. European languages and literatures are more studied amongst us now, and personal intercourse between the two continents is easier and more frequent; so frequent indeed that there are voices that seem to advise us against our young men's going to Europe to embark on post-graduate studies. That advice is to be deplored. I should improve it by advising Europeans to come here for that purpose. The more the languages that are studied, the wider the horizons that are scanned, the more different methods that are learned in medical pursuits, the more a man, young or old, will become a world to himself. By such exchange Europe has learned, will learn to respect us as we have admired Europe.

At an early time, long before the foundation in 1857 of the German dispensary, the first medical institution in New York in which German-born physicians began their co-operation with American medicine, I took an interest in the physiology and pathology of infancy and childhood. Was it the helplessness of the patients, the apparent or alleged difficulty of the subject, or its neglect in American literature, or all three of these reasons, that made me take hold of it, I cannot tell. But it fired my heart and imagination to suppose that if I labored for that honor, the history of American pediatrics would possibly contain *my* name among, a I fondly hoped, many more. Beyond that my dreams never went. I could not believe, nor do I to-night, in spite of what has been going on here, that, as Heine has it, my name should ever be mentioned among the best. But what I know from the history of the subject is this, that after the foundation of the first special clinic for the diseases of children in the New York Medical College in 1860 and in the University Medical College in 1865, such clinics increaaed in number, so that there is at present no large medical school without one. A very prominent part of our good medical literature is pediatric, and there are two journals exclusively dedicated to the diseases of children, some full professorships have been established, and the teaching mainly in New York, also in Boston and Philadelphia, has in part become bedside instruction.

Much credit has been given me, I know, for the rapid development of pediatrics in this country. It is true I have the doubtful advantage of being born in advance of my collaborators; but the time was matured for the new birth, and it so happened that many of the best medical minds of the nation became interested as I have been. Beside Stewart, Eberle, Meigs, hard-working, painstaking and honest J. Lewis Smith should not be forgotten. History, indeed, is not easily made by individuals, for a Washington is not born to every century or country. Not even a Bismarck could have moulded Germany into one nation if it had not been for the preparatory labors of previous generations, that of the revolutionary youth of 1848 included. Nor could a Johns Hopkins create what we now know Johns Hopkins University to mean, without the constant and conscientious co-operation of great men whose names are on every lip. It is true, however, in science alone, as pathfinders and organizers, single men *may* make history, but the tribe of Paracelsus, Morgagni, Haller, John Hunter, Bichat and Virchow is not numerous.

So you see that I have been most fortunate. A large family of brilliant pediatrists has grown up around me, both in private practice and in official positions. Through them, to a great part, clinical teaching has become the acknowledged means of medical instruction, though in most of the faculty frames their branches are still considered inferior to what is called a full professorship with didactic teaching. On the other hand, pediatrics is by force of circumstances given the very highest rank, for instance, in Columbia University. It recognizes the necessity of postponing special pediatric teaching to the fourth year; that is, after the young men are deemed to be fully prepared and capable; it also considered itself lucky when the generosity of an unknown donor enabled it to establish a pediatric ward in Roosevelt Hospital for bedside instruction.

Unknown donor! More unknown or known donors are wanted. A single half million of dollars will suffice to build and endow a child's hospital of fifty beds. When that will be accomplished, in connection with a medical school, then, and then only, will Columbia, or any other university be able to supply the Commonwealth with doctors who had ample opportunities to study the diseases of infants and children that will always form the majority of their patients. The race of Vanderbilts, Carnegies, Sloanes, Ottendorfers, Woerishoffers, Seth Lows, Paynes and Pierpont Morgans cannot possibly be extinct.

In 1853—I speak of what I have seen myself—the medical schools had the most accomplished teachers, and to a large part the most immature students. The teachers were mostly men of a national reputation; many of them were instructed in

Europe, most of them had enjoyed a classical education. Matriculants, however, were admitted as well from the plough as from the college, and no questions asked. The curriculum extended over two years, was almost exclusively didactic, the professor would teach the same subjects annually, and clinical teaching was in its embryonal stage. There are those here who remember that time, and also the lengthening of the course to three and finally to four years. Clinical teaching I have seen extending until, together with obligatory laboratory work, it bids fair to assume the leading part in our instruction.

In that way we imitated, but did not reach Europe. It takes some time to get so far. We were a young people, and where the plough was required to sustain our lives, the microscope, with its scrutiny of the almost invisible, had to wait. Our scientific institutions were not endowed, and had to serve immediate practical ends. Laboratory workers could but rarely be paid for lack of funds. But now, and for some time past, well-to-do men go into medicine for love, and not for money. They invest their own in their pathologic, biologic, histologic or chemic labors, and as good citizens of the Republic are satisfied with the interest their investment will bear to the domain of science, in the service of humanity. Medicine, like politics, will be purer for the money put into it, instead of being taken out of it.

In still another respect, I have been most fortunate. While pediatrics has become the subject of special study, and while there are even those who restrict their practice to infants and children, there never was the tendency to set it up as one of the narrow specialties. In regard to them many changes have taken place. During my own early life, I have seen a meritorious man whom I much admired, Horace Green, persecuted and derided because he paid what was considered too much attention to the larynx, perhaps also—who can tell,—because he knew more about it than all of the rest; and while getting older I had to observe, first in Europe, then with us, the tendency to exaggerated specialization, which has contributed much to narrow the scientific, mental and moral horizon of many a young man who means to become a wealthy and famous specialist, without ever having been a physician. I know of no pediatrist with that turn of mind. To study and practice a specialty should not mean to cut loose from medicine.

It is not in vain that the fourteen great national organizations feel the good that is in the consolidation into a triennial congress.

In regard to our medical schools it should be remembered that, with few exceptions, all of them were at one time, and most of them are still, private institutions. An intelligent American audience need not be told that vanity, avarice, territorial pride, professional jealously, had a good deal to do with the mushroom growths. St. Louis and Chicago had at one time, and have perhaps today, thirty medical schools between them. That is why professors are as numerous as crab-apples and plain doctors are scarce, at least in large cities. I am certain I express the opinion of all here when I say that medical teaching will be better, and more uniform, and more in accordance with the requirements of the public, when our 150 schools will have been reduced to 25, and each of them will be connecten with a university, as its medical department.

At the same time (in 1853) American medical literature was at its beginning. It is true Drake had long before written his "Principal Diseases of the Valley of North America,"—an immortal work. Holmes had proclaimed the contagiousness of puerperal fever many years before Semmelweis; but such great achievements were few. Original books were scarce. Some of our few journals were of the best. I mention the honest, scientific, and conscientious *Journal of the Medical Sciences*, and the always noble and refined *Boston Medical and Surgical Journal*. There were in New York the *Journal of Medicine*, which has since been transformed into the *New York Medical Journal*, and the prototype, alongside the *Boston Journal*, of our present weeklies, the *American Medical Times*. And now in 1900! Your literature is as well known to you as to me. Let me speak, therefore, only of our more than 300 medical journals. That some represent the finest flowers of intellectual research and keen observation, many more, however, the choicest rubbish accumulated by phenomenal ignorance and advertising impertinence, is simply a sad fact. Reduce them to forty; these forty will have a larger market, may be able to select their contributions and to pay the contributors, while at present they enrich the publishers only. The larger market will enable professional men or corporations to follow and improve upon the example of the *Philadelphia Medical*

Journal, and at least strike out for independent action, and finally found an independent press, not relying for its sustenance on the advertisements of propriety articles, whose principal element is the barbarism of their names, or on so-called original papers which bear the unwritten signature of nostrum manufacturers on every one of its bold and shameless pages. Gentlemen, it is time things should take a turn. There was a period when they asked: Who reads an American book? American books are now read the world over by privileged men, and even translated. Verily, verily, the time should come when they will ask: Where is the ignoramus that does not know American literature?

Twenty years' exertion before the Legislature on the part the medical profession—not of the schools, some of which were opposed to progressive movement—has at last resulted in the demands of a minimum of preliminary knowledge before matriculation, and, further, in a law according to which the license to practce depends on the result of a State examination for citizens and foreigners, that is not controlled by the medical schools. The law, in its fear of improper influences, has even, incorrectly, I think, excluded from the board of examiners whomsoever is in any way connected with a teaching faculty. In all these successful endeavors of the rank and file of the profession, I lent my hand. If there be any merit in my so doing, I claim it. For though a college professor, I saw the mistake of the schools that combated the inevitable progress on account of alleged but misunderstood interests, and kept intact and sacred my allegiance to the great profession in which I started, and in which I hope I shall remain to my last hour. With another step in the evolution of medical teaching I have much less to do than I could wish; for the growth of post-graduate schools has not only disseminated modern knowledge and methods among the established practitioners, but also started an impulse in the undergraduate schools to arrange for post-graduate courses.

Medical societies have grown in membership, numbers and influence. But latterly their number has grown so as to justify the suggestion that there is no blessing in the multiplicity of names, inasmuch as new societies have to recruit themselves either from the members of older ones, or to look for candidates among the young men, by more or less scrupulous canvassing. There is more strength in forceful consolidation than in fanciful expansion. Besides, it is a matter of sincere regret to many of us to note that the spirit of unfriendliness should not be buried forever, and that now and then personal vanities and grievances have the better of common sense and justice, and of the professional welfare. Many years ago one of the societies—the orthopedic—gave up its separate existence to become a section of the Academy of Medicine; there are some others that would be more useful than they are even now by taking a similar step. Within the time I speak of that Academy took wondrous strides. I knew it in a small room in the University of Washington Square; then in West 31st Street; and love it in its present palace, with its ever-increasing public medical library, the second in importance in the country; its impartial, non-political interest and co-operation in all public sanitary questions; with its labors in matters of quarantine, cholera and watershed; with its generosity to members and non-members alike that is so recognized as to provoke callous abuse; and with its ten sections in constant working order. They have given the young men, during now more than a dozen years, the opportunity for legitimate competition, for obtaining a hearing, and making their reputations. Ask them, and they will tell you that their growing renown —next to themselves and their honest work—is due to the possibilities afforded them in the New York Academy of Medicine. May its shadow grow forever!

During a long life I have seen more. Hospitals were built or enlarged, dispensaries and similar places established to such an extent as to justify anxiety about, and the battle against, the abuse of medical charities. Personally I have always seen and still see a great danger in tempting people to demand and take gratuitously services they can and should pay for. The gradual undermining of individual honesty and responsibility will prove a nail to the coffin in which republican institutions, founded as they are on equality, mutual obligations and probity, may some day be buried. The impulse given by the profession has also resulted in the foundation of the Willard Parker Hospital, which should have been one of many, and of the Minturn Hospital; in the improvement of the factory laws referring to children, in school inspection, which should be more comprehensive and more influential than it is; and in ridding the people of part of its quacks. How difficult that office is, and how serious the danger connected with it, in spite of the persistent and well directed efforts of the New York County Medical Society, can be appreciated only by those who know the extent of quackery in all classes of the public, which for proprietary medicines alone pays two hundred millions annually, and the sympathy it meets even with the alleged spiritual heads of mankind. Says Herbert Spencer: "The incorporation of authorized practitioners has developed a trades-union spirit, which leads to jealousy of the unincorporated practitioners, that is, the irregulars." In the solitude of his study, and communing with himself, he did not learn the needs of the people and the necessity of protecting their health against their own ignorance and prejudice, and of offering them unadulterated and unselfish science and art, as you feel bound to furnish them pure water and food, sometimes, or often, against their will. There are but few of us that have a high opinion of the discernment and discretion of a large part of the public. For there is too much clairvoyance, Christian lack of science, medical sectarianism and medicine-chest quackery, and too much dilettantism amongst our well-clad and well-fed, semi-instructed, but uncultured and mentally unbalanced classes.

Meanwhile, the profession, and I amongst them, have plodded on. Untold thousands have arisen this half century of mine, or passed away. There were the wage-workers, the teachers, the pathfinders. There were those who fought disease or epidemics bravely and survived, or those who died in a single task and left their small children hungry. It is true, the time has passed when the doctor was killed when he lost a patient. That is different now; we are more civilized, we are satisfied with murdering his good name. There were, there are only few that gained repute, local or national. If there were, it was not always to their advantage. Harvey and Gall, like many others that worked for science, lost their practice and livelihood; still without them there would have been no Bichat and no Virchow. The brave physician's work was always hard, for it is as difficult to save one life as it is easy to kill a thousand. That is why I cannot feel enthusiasm for the doctor who is occasionally puffed for leaving his humane work to participate in the killing, nor for the injustice of history, that mentions a thousand generals to one physician. Some of what I have said may be objected to. But I know that the views I expressed were mine always, and are not engendered by advancing age.

What after all is age? The boundary line between the young and the old is not, I take it, in the bald head or the gray whiskers, but in the change of a man's ambitions, motives and purposes, and of his relations to the world and its ways and aims. It is true that I have been told even to-night that I am seventy, in the pleasantest way you have of showing your condolence. I can bear it as long as those not so old as I am accused of being treat me as their equal and call me young—for an aged man.

Now, may I betray to my younger colleagues—I like to talk to them—how I succeeded in getting along with my age and with the young, and remain—as many say—one of them. By arranging and gradually developing a life programme, I tried to learn from my books, my patients, and my colleagues sometimes even from midwives and old women. Ambrose Paré admitted that he hated quacks only when they could teach him nothing. I think, also, I did my duty to my patients and my colleagues.

In accordance with my democratic schooling, I was fortunate enough to have respect for the individual. That is why I found it easy to imagine myself in the place of a patient, and to spare his feelings if I could not preserve his life. Where you cannot save you can still comfort. I never told a patient he had to die of his illness, and hope I shall never be so careless or so indolent as to do so in the future. The magnetic needle of professional rectitude should, in spite of occasional deviatians, always point in the direction of pity and humanity. Another lesson I learned early was this, that my patient had to be treated, and not the name of his disease, and, also, as my illustrious medico-poetical friend proclaimed in Washington a few days ago: "'Tis not the body. but the man is sick." My medical education dated from a dangerous era. Symptomatic diagnosis had been replaced by the anatomic. Rokitansky and Skoda cared more for the dead bodies than the living convalescents; the former proclaimed loudly that the only thing scientific in medicine was the autopsy, and the Nihilism of Vienna was that time's modern therapy. You and the patient met only twice—first, when you made the diagnosis of his case; the second, at his autopsy. Fortunately in F. Nasse I had fifty years ago a teacher of unadulterated humanity, combined with all the scientific eagerness of his mental youth of exactly seventy years. From him also, though he was not a democrat nor a revolutionist, I learned the sacredness of individual right and life which I never ceased to respect. Thus I learned two things: first, never to let up in my care of individual life when entrusted to me; secondly, that no single political or religious creed ever owns, or controls, or interferes with the dictates of humanity and common sense. Man is above theories or creeds.

Further, my young friends, I never thought I owned my patients, and never grudged my colleagues *their* own. I never shrugged my shoulders when they were well spoken of, and did not believe my reputation suffered when they were eulogized. I always preferred that patients should come to me, to my running after them. When a patient left me for some other doctor, I may have felt chagrined, but I did not blame the doctor he called in. When a doctor robbed me of a patient by hook or crook, or both,—such things do happen, I believe, even now,—I was sorry for the doctor and for the profession, and glad I was not he. To compete honestly I think is easy for a gentleman; to bear dishonest competition should be easy, but it worries. Not to take honest competition on the part of others kindly, shows disregard for the rights of others, either doctors or patients, and bad citizenship; or it proves premature old age, with its occasional avidity and venomous jealousy. Now, the morbid bitterness of old age, of which we hear, I have not experienced as yet, and if, or when, it will come with the increasing atherosis of my brain arteries, I wish and trust somebody will tell me. There are, besides, a few tricks of mine which provented both my brains and heart from getting altogether too rusty. There was a time—not so long ago—when I was the youngest everywhere. When I got bravely over that, I always kept in touch with the young, either students or colleagues, or writers. Literature is always young, students and colleagues sometimes too much so. But they suited me exactly, for they kept me in touch both with my former self and the new era. Mainly in the last decade or two, the young men were compelled to learn many new things which though Leuwenhoek two hundred years and Henle sixty years ago saw the holy land from afar, could not have been believed possibld by a Sydenham, or Boerhave, or Haller, or even Bichat. We older men are either behind the time, or we have to unlearn much of our dearly bought stock, and to learn with the young men, or from them. To the young amongst you all, particularly to my own accomplished assistants, both in private and official positions, I here express my thanks, not only for the direct instruction I have received from them, but for the imponderable intellectual and moral influence the intercourse between intelligent creatures must always exert. Then there is another trick. When your anger arises within you over some unjust thing, be not afraid of showing the blush on your face; when an iniquity is perpetrated, resent it. Be not afraid of slapping the cheek that deserves it in private or in public. Personally I hate enmities; they always fretted and worried me and gave me sleepless nights; but I never was afraid of the enemies I made as long as I fought the battle of professional or civic decency and dignity. If there be a bad, or a ludicrous, or a dangerous man, and if he feels offended by my telling him of his misdeeds and my trying to protect the profession or the community against him, here I plead guilty, and I shall do it again for evermore. When I shall stop, then call me old.

The facility of obtaining a diploma and the license to practice, formerly greater than now, has so filled the profession with undesirable men and women as to crowd the ideal as to what the physician should be to the wall. It is only with the growing difficulty of matriculation and increasing severity of examinations that the number of underweight doctors becomes smaller. With this increase, and with growing competition, the methods of obtaining a livelihood in every business and vocation become more doubtful. That is why the morals of the profession have been subjected to a most severe strain. Moreover, the commercialism which is the signature of the end of our century has invaded industries, arts, science and the professions, more, however, in Europe—as I could easily prove—than in America.

This superiority of the moral tone in our American profession is due to the innate pride of our citizens, and has certainly been commemorated or preserved by the teachings of the code of the American Medical Association. So settled is that habit of modesty and pride amongst us that when finally we resolved in the Medical Society of the State of New York that no law-book was required to guide our methods of intercourse, the observance of the rules valid among gentlemen became even stricter in the profession of the State of New York than ever before. Still there *are those* who are infected with the meretricious spirit of the times and think they cannot wait for success. Indeed, no profession should expect to be exclusively composed of men of stern character and incorruptible probity. The methods of reaching their ends are therefore, as the case may be, those of vanity or obtrusiveness, now and then of dishonesty.

Those of us, however, who crave notoriety in the belief that the majority of the public have as little brains as fish that take every bait, will meet reporters at the bar or in the sacred concealments of their offices, get into the newspaper columns with their wonderful electrical discoveries, miraculous cases, unheard-of operations and long titles, the least of which at present is "professor."

In the words of a great cynic "What are you going do do about it?" There are those whose egotism and vanity are not controlled by any regard for the public good and who are acrobatic experts in the art of keeping on the fence between honorable professional behavior and shameless quackery. If they knew how ludicrous they are, and how pitiful they appear in the eyes of the honest crowd about them, they would do better. And here is a word to the young. I am afraid we old men are past changing, but it is a failing in our national character to be always cordial, always courteous, always handshaking. We do not identify the sin and the sinner; we abhor the former, and are too good-natured to shun the latter. If there be a danger to our morals and our politics, it is there. If you, the young men in the profession, will refuse approval and honors to men whose actions and methods you condemn, if you will only show them that your heart is chilled against them--some of them are in public positions—there will soon be an end to offences which need not always result from wickedness, but from bad taste only. There are those indeed among the vain who fear the display of bad taste more than the perpetration of sin.

After all, however, when I look backward, I really do not believe that the moral tone of the profession is lower than circumstances will always necessitate in this period where trade is everything. There were jealously, strife, and competition at all times, and men were always human. The "good old times" is an ideal that, while its consummation is too far ahead or beyond the horizon altogether, is searched for backward. Doctors were always what their time, their people, their surroundings made them.

The mutual relation of physicians I have seen improving during my own time, that is,. within half a century. Imagine that twice that time, only one century ago, the literature on the behavior of physicians toward one another was very copious; evidently, the need of it was great. At that time consultations between doctors were declared by a well-meaning writer to be impossible, purposeless, time-killing and "revolting," and as late as 1783 famous I. P. Frank advised seriously to call in the police to arbirrate and restore order when doctors disagree in their consultations. That was only a century after the polite scoundrel of Molière proposed to his colleagues: "Let me bleed him, and I let you purge him."

Not very long before my time the amenities of professional intercourse cannot have been very great, when Lisfranc called Dupuytren the butcher of the Hôtel Dieu, and Dupuytren dubbed Lisfranc the "murderer of the Charité." One of the later publications on the mutual relations of doctors was that of Percival in 1807; it was made the law-book of the American Medical Association in 1847. My illustrious friend in Washington, Dr. S. C. Busey, who upholds it as a necessity, still proclaims that the rule forbidding consultations with sectarian practitioners altogether should be so modified as to permit them in cases of emergency. That is what the Medical Society of the State of New York made its policy in 1882. It was a number of years afterward that the code was abolished altogether. As far as I am personally concerned, I am still of the opinion expressed years ago, that there are no statistical data to prove that more sins are committed by gentlemen without than with a written code.

On the other hand, I cannot see why whatever differences there are between those who adhere to the code of ethics and those who believe in and act on the same principles could not be easily adjusted. Books are made for the use of men by men, and no fires are lit any more in this country under the impression that differences of opinion can be killed like human bodies. The spirit does not burn like flesh. Why differences of opinion as to the indispensability of a written code should lead to animosity to such an extent as to preclude the possibility of a peaceful discussion, I have never been able to conceive.

What, indeed, does all the discord amount to? The whole profession agrees about the inadvisability of consultations, in the very interest of the patient, with a certain class of medical men, in the average case of illness. In emergency cases such consultations are permitted for reasons of humanity by both parties of the profession. One of them bases its action on the written code of ethics, the other deems a written code unnecessary for its guidance. It is my opinion that our successors will hardly believe we ever were serious men when they learn that the enlightened and public-spirited profession could go to war over differences of motives and methods when the end in view was the same.

Mr. Chairman, I have been, more than I deserve, praised as a physician, as a teacher, as a citizen. My own remarks referred mainly to the first, for I am proud of the profession to which I belong. Every individual professional man, if he be, as mostly, a good man, and the collective profession have always proved good and statesmanlike citizens. They do not, I grieve to say, take much personal part in the politics of the city or country, but whoever knows the exhausting life the medical man is leading cannot wonder that we are not often seen in the political arena. This is deplorable, and my word to the young is to lend a hand to this country of their birth, or of their adoption, for it is in America that many political, economic, and social problems will have to be solved. In every other respect there is no man that gives more and gets less than the physician. And the profession at large?

There is no interest connected with the life and health of the community that was not fostered by the co-operating physicians. The sanitary commission of the Civil War contained illustrious names like Agnew and Krackowizer. Physicians know best or feel most intensely that a people stricken with poverty and ignorance, and decimated by preventable sickness, should be deemed an anachronism in this century, and that, as

Virchow expresses it, every epidemic is a warning that should teach a statesman that there is a preventable or curable disorder in the organism of the commonwealth. Unfortunately it is too often true, what Anarcharsis said of Athens, that the wise men do the talking and the others the ruling. If that were not so, it would look impossible that a quarter of a million asked for once, in behalf of the establishment of what is to be at the same timo a life-saving station and an instruction camp, should be refused, while a million a day is spent on destruction; or that an appropriation required for the solution of problems connected with the mental health and disease of tens of thousands of our fellows should be withheld. The battles against prejudice, shortsightedness, and incompetence are always fought by the medical profession, which unfortunately is too often not consulted, and that,gentlemen not of the medical profession within the hearing of my voice, is what binds us together and renders us proud of one another, with that altruistic unselfishness which is our sacred egotism. To look back upon a long life spent in that profession is my greatest satisfaction, and to know that no changing influence of the day is able to divert the profession from its manifest destiny and plain duty of being and remaining the teacher and protector of the race in all that pertains to its physical and moral welfare is a boon greater than endless millions or worldly power. Of that profession I have been one, these many decades. That is why I am here, distinguished and honored more than I personally deserve, but understanding perfectly well that my brethren have come here with the sentiment of professional goodfellowship, and the lay friends to do homage to their greatest benefactors, namely, medical science and the American medical profession, in the person of one of its fellows.

What I have said, gentlemen, may look to many rather like an acedemic discourse than an after-dinner talk. It remains for me to thank you for your patience; remember, however, this happens only once in seventy years. I have to express my thanks for many more things. Consider my recollections of nearly half a century. I came here a foreigner, and never was made to feel I ever *was* a foreigner. I emerged from a European state prison to breathe the pure air of a free country. My political and social ideals were not all fulfilled, it is true, for nothing is perfect that is human; that is why it was still necessary for me to be an abolitionist and a mugwump, with the perfect assurance—which I still hold—that some time or other the minority turns out to be the majority. I imported nothing but the willingness to work hard and to be modest and grateful. I joined a profession that owed me nothing, and knew still less of me than I knew of the profession. The kind reception I met with surprised me, for I knew that a foreigner would not be so treated in the country I had escaped from. I had but little except the knowledge of my duties and responsibilities. With that small capital I was received and allowed to co-operate as an equal in whatever concerned the profession and its relations to the commonwealth, city or country. I repeat only what everybody knows, so I do not boast when I say that one by one almost every place of honor the profession had at its disposal has been mine. Of *this* day I must not speak, for I cannot do so without tears in my throat. Who is there that wondered that when many years ago the great honor of a responsible position in a foreign country was offered me, it took me a single minute only to decline?[1] I was, I am, rooted in the American profession, that I have observed to evolve without governmental aid, out of its own might, to become equal to any on the globe. I was, I am, rooted in the country that was my ideal when I was young, my refuge when, alone and persecuted, I stole away, and always, clouds or no clouds, my sunny hope forevermore.

And this "Festschrift!" These last weeks I wondered many a time, and I do so now, that I should be the receiver of that honor. When many years ago heroes like Virchow, and then again Henoch, were to be held up for the admiration of the medical world, on both occasions, I had the privilege of co-operating in the expression of the estimation in which they were held. This distinction is rare, even in the country of my birth. In our country, I know only of two such dedicatory volumes, the "Wilder Quarterly-Century Book of 1893," dedicated to Prof. Burt Green Wilder, of Cornell University, and the volume presented to Professor W. H. Welch, of Johns Hopkins,—once a hospital assistant of mine, now one of my honored masters,—yesterday evening. That the country which adopted me, and gave me, a peer amongst peers, opportunities to work, should in true cosmopolitan spirit adopt this method, rare enough in Germany, of raising a man to the greatest possible height of distinction, and making him shine above all men—and this man I—is far, far beyond what was the culmination of all my possible hopes. That men here and the world over should respect me to the last day of my life, was the extent of my pardonable wishes. If nothing else, however, this book, the work of others, will carry my name to posterity. I accept it with the gratitude due for that immeasurably rich gift. Amongst its contributors I see the names of many old friends, and some whose faces I never saw; the names of men from all civilized countries, honored in the realm of medical literature, known to one another by their achievements, separated by seas and boundary lines, but working for the same ends in the service of science and of mankind. Aims, methods and persistency are common to the medical profession of all countries. On its flag is inscribed what should be the life rule of nations: Fraternity and solidarity.

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[1] Dr. Jacobi was offered a professorship in the University of Berlin.—[ED.

EDITORIAL COMMENTS

The "Jacobi Number" of Pediatrics.

In sincere admiration of the long and fruitful professional life of Doctor Abraham Jacobi, and in commemoration of the attainment of his seventieth birthday, this issue of PEDIATRICS has been a called a "Jacobi number."—In it we hope to accomplish two objects. One is, the presentment to our readers of a permanent record of the notable birthday celebration recently given Dr. Jacobi. Another is to commence the publication of all the articles on pediatric subjects written for the Jacobi "Festschrift." The papers it contains on the subject mentioned are of great value, so great that we believe it to be no small service to the profession at large that they should be given a wider publicity than the limited edition of the original volume will well admit of. This journal has fortunately secured the exclusive right to present them in a more popular and accessible form, and a certain space in subsequent issues of PEDIATRICS will be devoted to the re-publication of them.

Dinner to Dr. Jacobi

On the evening of May 5th, four hundred of his fellow-physicians and fellow-citizens gathered at dinner in the large banquet hall at Delmonico's to celebrate the seventieth birthday of Dr. Abraham Jacobi and his forty-seventh year in the active practice of his profession. It is safe to say that no man in the medical profession in this country could have welcomed a more loving and enthusiastic assemblage. Most of those present regarded him not only as a conscientious advisor, but as a personal friend.

Among those at the guests' table were Dr. Joseph D. Bryant, who presided; Seth Low, ex-Secretary of the Treasury Charles S. Fairchild, Carl Schurz, ex-Secretary of War Daniel S. Lamont, Dr. E. G. Janeway, Horace White, Dr. William H. Welch, Charities Commissioner John W. Keller, Dr. William H. Thomson, Dr. John S. Billings, Joseph Larocque, Dr. T. M. Rotch, and Dr. William Osler.

At other tables were William Dean Howells, I. N. Selig, man, Dr. D. B. St. John Roosa, Dr. J. A. McCorkle, Simon Sterne, Dr. F. H. Markoe, Dr. G. F. Shrady, Dr. F. Sondern- and Horace E. Deming.

The current number of PEDIATRICS contains the addresses delivered at the banquet, as well as a poem written for the occasion by Dr. S. Weir Mitchell.

Dr. Arpad G. Gerster made the presentation to Dr. Jacobi of a "Festschrift," a magnificent volume containing contributions from the pens of fifty-three medical men of note.

Dr. Jacobi is esteemed not only because he has done so much in his chosen specialty of pediatrics, but because he has taken a very active part in many things that pertain to the advancement of medical knowledge. Nor have his duties as a citizen been at all neglected. Whenever he has considered that matters of civic importance demanded his attention, he has shown that same zeal that has made him a power among his colleagues. He was the first to establish special clinics on the diseases of children in New York. Now pediatrics is regarded as one of the most important of the branches of medicine, the specialty of the general practitioner. Besides filling such other posts of honor as but few can do more than hope to attain, he was the first professor of diseases of children in this country, and the first President of the American Pediatric Society.

Dr. Jacobi graduated at Bonn in 1851 and came to New York in 1853. In 1857 he was made lecturer on infant pathology in the College of Physicians and Surgeons. In 1860 the chair of diseases of children, the first of the kind in America, was created for him in the New York Medical College. In 1865 he became clinical professor of diseases of children in the University of New York, which position he resigned in 1870 to become clinical professor of the diseases of children in the College of Physicians and Surgeons.

In 1857 Dr. Jacobi helped to establish the German Dispensary and in 1868 the German Hospital. He has been consulting physician to the Board of Health and to the Hood Wright Memorial Hospital and visiting physician to the Nursery and Childs' Hospital. He still is visiting physician to the German, and Roosevelt Hospitals, as well as consulting physician to Bellevue and the Mt. Sinai Hospitals, the Babies' Hospital, the Skin and Cancer Hospital, the Orthopedic Hospital, and the Hackensack Hospital. He has been president of the New York Obstetrical Society and the Pathological Society, the County Society, the State Medical Society, the New York Academy of Medicine, the American Pediatric Society, the Association of American Physicians, the German Medical Society of New York, and the American Climatological Society, besides being an honorary member of many foreign medical societies.

The Jacobi Festschrift

As the readers of PEDIATRICS of course know, the Festschrift is in Germany an institution of many years' standing. For the German medical man or scientist it is the crowning glory of a long life of unselfish and brilliant scientific labors,—an honor bestowed only upon the most deservedly eminent. Such a volume is commonly made up of original scientific contributions of high order from the universities and laboratories of all the most notable among the friends and compeers of the recipient. And in order that the pages, binding, and plates may be as handsome as possible no reasonable expense is usually spared. The Festschrift presented to R. Virchow is among our recent memories.—The practice might well be more generally adopted in other countries. Until the movement was made a year ago in the United States for the production of Dr. Jacobi's volume, we understand that Professor Wilder, of Cornell, and Dr.

Welch, of Johns Hopkins, had been almost the only American men of science so highly honored by their friends and admirers. The Jacobi Festschrift is therefore an unusual volume; and it is rare, not only in point of precedent but in the extraordinary value of its contributions, which have come not only from America but from nearly all the countries and in nearly all the languages of Europe as well. The volume is a superb specimen of bookmaking in appearance. We predict that the limited edition will not be large enough to supply the demand, and we are glad to add a hearty voice to the many commendations that have been received by the editors. B.

PEDIATRICS

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ORIGINAL ARTICLES

DANGEROUS COMMUNICABLE DISEASES, HOW SPREAD, TOGETHER WITH SOME SUGGESTIONS AS TO THEIR RESTRICTION.

By M. K. ALLEN, M.D.,
Health Officer, Louisville, Ky.

OUR city mortality records disclose the fact, that the most dangerous communicable diseases, named in the order of their frequency as causes of death, are pneumonia, consumption, typhoid fever, diphtheria. measles, influenza, whooping cough, scarlet fever and small pox.

These so-called " contagious diseases " are usually spread through the medium of atmospheric dust, containing the germs which produce these several diseases. It is highly probable that none of these diseases is ever contracted except through some break in the skin or in the mucous membrane lining some cavity. Breaks or ulcerations not infrequently occur in the throat during seasons of the year when atmospheric conditions are such as produce raw, cold, windy weather, when the throat irritant ozone is most in evidence, producing a drying effect, thus causing the throat and nose to be in favorable condition for the reception of these various germs. The nose is fortunately guarded by minute hairs, which are kept moist by exhaled breath and not by secretions, which in a measure prohibit the passage of dust beyond this organ, provided it be in a normal condition. Such a quantity of dust-laden air passes through the nose, however, that quite an accumulation occurs, which naturally contains many species of bacteria, spores and germs, some of which are capable of causing a specific disease. For instance the micro-organisms (pus-cocci) which cause suppuration are so generally present that any break in the skin or mucous membrane is usually followed by the formation of pus. The noses and mouths of persons who are not suffering from pneumonia are sometimes found to contain the characteristic germs of pneumonia, so generally distributed are these bacteria.

People should be educated through health officials and practitioners of medicine as to the chief sources of danger in contracting contagious diseases.

First: They should be made to know that the dust from infected handkerchiefs, when the secretion has dried, often contains disease germs and should be looked upon suspiciously. They should be taught that handkerchiefs should, under no circumstances, be used after any secretion from the nose has been permitted to dry upon them, and that after being used they should be placed in a paper bag, the top twisted shut, and there remain until they can be boiled in water.

Second: Contagion is liable to be spread by dust from floors or articles upon which infected sputum or saliva has been ejected.

Third: Contagion is liable to be spread by contact with the hands of persons who cough or spit into handkerchiefs, and then handle the infected material.

Fourth: Clothing may often contain the germs of a communicable disease.

Fifth: Books, pencils, chewing gum, drinking cups, etc., which are used in common, are often sources for the spread of contagious diseases.

Sixth: While typhoid fever is ordinarily caused through the medium of drinking water which has been contaminated with sewage or with leakings from privies, it is not improbable that the disease is sometimes spread by means of dust containing the germs of the disease.

Taking up the dangerous communicable diseases, in the order of their importance, the modes by which they are spread, and the best methods for their restriction and prevention, I submit that it is now a well-known fact that consumption is a communicable disease. It is also well known that this disease is spread by the dust of dried sputa, and also by milk and meat of tuberculous animals.

When we consider further the well known fact that out of every seven persons born, one dies from some form of tuberculosis, that of all the children that die under ten years of age, one-third die of tuberculosis, and that out of the sixty-three millions of people living today in the United States, nine million or more, will die of some form of tuberculosis at the rate the disease is now prevailing, unless something is done to prevent it, we can realize the importance to the human family of the adoption of methods for the prevention of this dreaded disease.

It would seem that humanitarians, physicians, statesmen, philanthropists and sanitarians, should all enlist themselves in an earnest, heroic endeavor to arrest this destroyer of human life, and the knowledge that consumption is preventable should go all over the land. Physicians and sanitary officers especially, should disseminate information concerning the importance of preventive precautions wherever consumptive patients are found.

The magnitude and importance of caring for consumption is too great to undertake to discuss it at length in a paper of this character, but I cannot refrain from saying that the time must come when those afflicted with the disease, who have not the means to visit Colorado, or Florida, will find in all the progressive cities and states in this country, institutions where patients may be admitted, and derive benefit from the methods now practiced by scientific men. Such institutions will be monuments of humanity and progress, and will redound to the everlasting honor and credit of any city or state which may establish them. Why should not this city take the lead? It is understood that at the present time the most important measure for the restriction of consumption is the disinfection or complete destruction of all sputa of every consumptive person.

Pneumonia is spread by a germ which is found in the sputum of those who have the disease. Care should always be taken to destroy or disinfect all sputa of those who have pneumonia.

Influenza is now known to be spread by a germ which finds its way from infected handkerchiefs and other articles into the nose, throat and air passages of persons susceptible to this disease. Dr. Wynekoop, the bacteriologist of the Chicago Board of Health, has shown the "Canon-Pfeiffer" bacillus to be the cause of this disease. His investigations during the month of February last, when the disease was prevalent in

Chicago, showed that in 61 out of 185 examinations made by him for private physicians, the clinical diagnosis of influenza was verified by the microscope in 23 cases. In the remaining 38 examinations the organism was found in 19 cases where no clinical diagnosis had been made; in 8 cases where the clinical diagnosis was diphtheria, but the Klebs-Loeffler was absent; in 3 cases of "peculiar conjunctivitis"; in 2 cases "probably tonsillitis"; in 1 case of clinical bronchitis; in one of diphtheria and scarlet fever combined; in 1 case designated "cold" and 1 marked "doubtful". In the remaining two cases the diagnosis was tonsillitis, but the microscope revealed the presence of both the Klebs-Loeffler and the Canon-Pfeiffer bacilli. The practical value of these examinations in determining lines of treatment is very obvious.

It is very clear that the measures which should be adopted for its restriction are isolation and disinfection.

Diphtheria is spread by the sputa, saliva and whatever comes from the throat and mouth of the patient, and by the dust which results from the drying of such saliva, etc. It is well known that the germs of this disease (Klebs-Loeffler) sometimes remain in the throat for weeks after the patient has apparently recovered.

Membranous croup in nearly all cases is diphtheria, the membrane being limited to the upper part of the windpipe. It should be classed with true diphtheria so far as the means of prevention are concerned. All articles in the sick-room should be regarded as infected. The germs of this disease have wonderful vitality, and can be disseminated by domestic animals, and infected clothing, and other articles, for many months and possibly years.

For the restriction and prevention of this disease isolation and disinfection are all-important,—isolation of every infected person and thing, and complete disinfection. When diphtheria is prevalent the safety of the public depends upon the promptness and strictness with which the local health authority enforces quarantine measures.

It should be clearly understood that by quarantine is meant the isolation of persons affected with the disease and also those intimately associated with them. It should be required that no one be permitted to enter or leave the infected house (excepting the physician or necessary attendants) without written official authority. After the recovery or death of the patient disinfection should be properly practised.

By the adoption of such measures, which should be strictly enforced, many lives might be saved which are now needlessly sacrificed.

While filth itself does not produce the disease yet it furnishes conditions which are favorable for the preservation of the germ.

Typhoid fever is unquestionably a germ disease, due to a micro-organism (bacillus of Eberth) which is found in the discharges from the bowels of persons afflicted with the disease. This micro-organism always maintains its specific character, reproducing enteric fever in persons in whom conditions are favorable for its development. It is generally supposed that the germs of this disease may live outside of the body for a long period of time and then be brought into activity when again taken into the body of a human being. It is generally conceded that these germs do not possess immediate infective power on leaving the body, but that they soon acquire this property; hence proper precautions should be taken to destroy all discharges from the body before the germs become infective. The most common way by which the typhoid germ may gain entrance to the human body is through drinking water polluted with the discharges of a typhoid patient. Milk which has been diluted with water from an infected well may often convey the germs of the disease. Wells are often polluted with typhoid germs by surface drainage, and again, wells are often polluted with leakings from neighboring privy-vaults where the stools of typhoid patients have been thrown without proper disinfection. Instances are on record where the germs of typhoid fever have filtered under the base of large mountains, infecting springs on the opposite side and producing typhoid fever in persons who used the water.

Clothing soiled by the discharges from typhoid fever patients may infect laundresses. If the stools of typhoid patients are thrown on the ground and allowed to dry the germs may be taken up and scattered broadcast in the atmosphere and become a source of the disease by being inhaled and arrested in the mouth and pharynx, finally being lodged in the stomach and intestines. It is possible that faulty plumbing which admits sewer gas into residences may contain the germs of the disease. The complete destruction of the stools of typhoid patients is the first consideration in the prevention of the disease.

The frequent uncertainty in its diagnosis is often responsible for its spread, proper precautionary measures not being taken.

The commonly called "walking typhoid" is often not recognized and therefore precautionary measures are not practised.

In typho-malarial fever we not only have malarial poisoning, but the germs of typhoid often play an important part; in fact it is now supposed by many that the disease depends upon the germs of typhoid alone.

It is my opinion that all cases of so-called "typho-malarial fever," should be reported as typhoid, and the same precautions exercised as in typhoid. It is clearly understood that the object of reporting typhoid is that the origin of the disease may be traced, the sanitary conditions of any given locality improved, and that the water and milk supply may be thoroughly investigated by official authority.

Scarlet fever, also called scarlatina, scarlet rash, or canker rash, is a dangerous contagious disease and is of more importance than either small-pox or cholera, because of its frequency. The communicability of this disease from person to person thoroughly establishes the fact that it is produced by a germ, although the latter has not yet been fully identified.

It is spread by the discharges from the nose, mouth and throat, and probably, also, by minute scabs which are thrown off from the surface of the body. The contagion of scarlet fever surpasses that of any other eruptive fever except small-pox, in its tenacious attachment to objects and its portability to distant localities. It has been frequently demonstrated that the germs of this disease are capable of retaining their infecting properties for many months.

The disease never originates from atmospheric influences, but is always due to a specific principle of contagium. Countries known to have been free from the disease for centuries have had the germs imported to them by commerce. The means of prevention of this disease are: isolation, quarantine, and disinfection. The lack of proper precautions in this respect is responsible for the spread of the disease.

Quarantine of the strictest character should be urged and required of children associated with or in the house with the patient for at least ten days after his complete desquamation or scaling and the thorough disinfection of the premises. Scarlet fever usually attacks children under the age of ten years, but adults are not entirely immune.

Measles is spread from person to person directly and indirectly. Isolation and disinfection are known to be the best means of preventing the spread of this disease, and these measures should be much more strictly enforced than is now the custom.

Whooping cough is a communicable disease, which causes more deaths than does small-pox. This disease is spread from person to person, directly and probably indirectly. Isolation and disinfection should be practised, as in other contagious diseases, and the discharges from the kidneys and bowels should not be overlooked but should also be properly disinfected.

Unmodified small-pox is one of the most contagious, fatal, and loathsome of all the diseases to which the human family is subject.

It is spread by means of particles given off-from the surfaces of the body. Before the introduction of vaccination one-tenth of all the deaths that occurred in Europe were due to this disease alone.

In 1871 Germany lost 143,000 lives by small-pox. In 1874 a law was enacted, making vaccination obligatory in the first year of life, and compelling its repetition at the tenth year. The result was that the disease almost entirely disappeared. At present the loss of life from this disease throughout the Empire is scarcely 100 a year.

At the time of the Franco-Prussian war the German government had its civil population vaccinated optionally, and its army completely re-vaccinated, while the French army and population were vaccinated perfunctorily.

Both armies were attacked by small-pox, the French loosing 23,000 men and the German 278. With such absolutely correct statistics, how can there be any plausibility in the arguments of the anti-vaccinationist?

That vaccination, properly done, will prevent almost without exception the contraction of small-pox, no matter how great the exposure, is proven by the statistics of the world today.

The protective influence of vaccination is established beyond dispute by evidences derived from small-pox hospitals themselves.

At Highgate, during an experience of forty years, no nurse or servant who had been revaccinated has ever contracted the disease, notwithstanding exposure to the infection in its most concentrated form.

A recent investigation in England developed the fact that out of 1,500 small-pox nurses examined, 43 had had small-pox, and that not one of these had been vaccinated.

During the epidemic of 1871, 110 persons were engaged in the Howerton Hospital in England, in attendance on small-pox cases. All these with two exceptions were re-vaccinated, and all but these two escaped the disease. Of 734 nurses and attendants on small-pox cases in London hospitals, 79 had small-pox previously to their entrance; they escaped re-infection; 645 were re-vaccinated on entrance; not one took small-pox; ten escaped re-vaccination, and the whole ten contracted small-pox.

During our recent epidemic of small-pox, there were for some time about 60 physicians, inspectors, nurses and other employees connected with the Health Department and the Eruptive Hospital, who were daily exposed to the contagion for many months. All of these persons were vaccinated at the outset, and re-vaccinated at various intervals. Not one of these persons contracted small-pox in any form.

Notwithstanding such convincing statistics as those recited, the anti-vaccinationists have succeeded, both in this country and in Europe, in persuading the judiciary to modify compulsory vaccination rules in times of epidemics of small-pox. The tendency of the judiciary to excuse the so-called "conscientious objectors" to the operation of vaccination, involves a possible national peril.

The most important measure for the prevention of small-pox is very clearly vaccination and re-vaccination, which should be practised at least once in every five years, or oftener when the disease is prevalent in a given locality. Extremely radical quarantine measures should be inaugurated and enforced in times of epidemics.

Compulsory isolation is of the utmost importance. The complete destruction of infected woolen or cotton fabrics by cremation, and the thorough fumigation of infected houses by the use of formaldehyd gas, under official authority, complete the preventive measures.

It would doubtless be of interest and profit, to take up the question of disinfection, by which means the destruction of the organisms producing these diseases is accomplished. A discussion of this subject alone would be too great for one evening.

I fully realize the fact that we have not yet attained perfection in the use of proper means for the prevention of the spread of communicable diseases. While acknowledging official omissions and commissions in this particular, I submit that the responsibility does not rest entirely here, for we yet have some physicians who do not promptly and willingly comply with the ordinance requirements.

Too many physicians "assume the responsibility" on the notification report and neglect to discharge the responsibility in practice. They are too indulgent as to visitors into infected rooms and premises; too many children who are still in the communicable stage of disease, especially of scarlet fever, are permitted to mingle with others; not enough warning is given in all cases, and especially is disinfection under the direction of the physician not thorough and efficient.

The responsibility of the application of these measures rests largely with the attending physician. It affords me great pleasure, however, to state, that now, more than ever before in its history, the Health Department is in closer touch with the medical practitioner; more fully than ever, it receives the information necessary to success in its efforts to restrict the spread of the communicable diseases and to protect and promote the public health.

SOME REMARKS ON THREE SYMPTOMS OF RICKETS.

By W. N. Berkeley, M.D.,
New York.

FOR all the familiarity of the profession with rachitis in infants, there can be no doubt that a certain haziness of mind still exists in respect to many of its symptoms. Medical writers are still occasionally reporting cases of "paraplegia," anemia infantum, pseudoleukemia, hypertrophic cirrhosis of the liver, tetany, etc., where, from a rather incomplete description of the cases, one is strongly tempted to affirm that the real underlying condition was simply rickets.

1. *Rosary.*—One of the most constant symptoms of rachitis is the costal "rosary." The typical distribution of the costal nodes is well shown in Fig. 1. They are sometimes missed because the examiner forgets that in the child the osseo-cartilaginous junction of the ribs is relatively farther by an inch or two from the median sternal line than in the adult. Instead of a genuine node, occasionally only an angle made by the bending of the softened rib is to be found. Tumefaction is sometimes well marked on the interior and absent on the exterior surface of the rib. This will rarely occur without the presence, at least in certain of the ribs, of the characteristic angle.

2. *The Head in Rickets.*—The typical rickety cranium is illustrated in Fig. 2, a case which was complicated by tubercular meningitis and which shows also the characteristic "boat belly" of the latter disease. Most noteworthy, of course, is the familiar prominence of the parietal bones, giving to the head its box-like shape. The anterior fontanelle instead of closing completely as it normally should, between the sixteenth and nineteenth months, remains widely open, often having larger dimensions at two or two and a half years than it should have at the period of its greatest size in health. The sutures may also be more or less separated and the bony plates of the skull greatly thinned, or completely softened. The latter

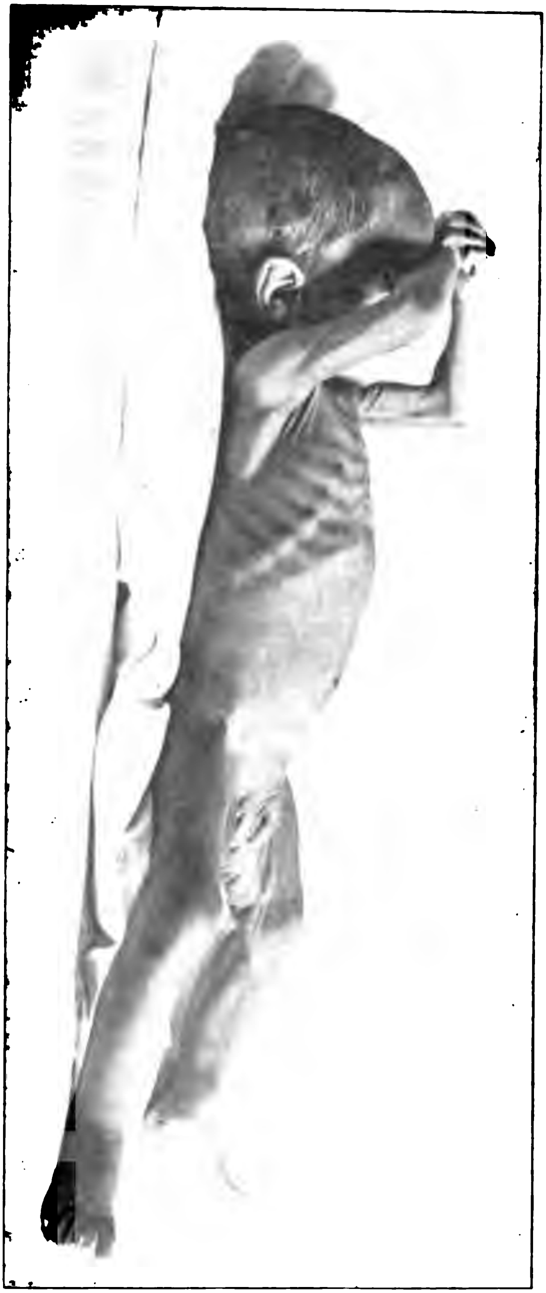


Fig. I.

symptom (craniotabes) sometimes occurs in heads which are otherwise perfect in shape. The writer saw recently an exaggerated craniotabes of more than half the parietal bones in an infant of 8 months that had been improperly fed. The baby's head was perfect in external contour. The wasting of the bones would not have been discovered unless it had been carefully looked for.

3. *The Liver and Spleen in Rickets.*—No case of rickets should be treated without a thorough investigation into the shape and size of the liver and spleen. In the first place the chronic intestinal indigestion which rickety infants suffer from furnishes toxic matter enough to cause a simple tumefaction of these organs,—a swelling very similar to that occurring with catarrhal jaundice. To this the influence of the secondary anemia of rickets is superadded. These two causes, with perhaps others due to the specific nature of the disease itself, often produce when working in conjunction a splenic and hepatic enlargement which is astonishing, and gives rise to many adventurous essays at diagnosis. Why the liver sometimes, and sometimes the spleen, should respond more readily to the causative conditions, no reason is yet forthcoming. Compared with the liver, the spleen is more apt to reach really remarkable dimensions. In the child with craniotabes, mentioned above, the spleen extended much below the navel and nearly to the pelvic brim. Fig. 3 is a diagram of the abdomen of an Italian baby of 7 months, from the tenement districts. The bony symptoms of rachitis were unmistakable, and the spleen was monstrous, dipping well down into the pelvis.

It should not, of course, be assumed that so large a spleen as this is due only to rickets until syphilis has been reasonably set aside and a careful blood examination has excluded leukemia and malaria, and has established the existence of a simple secondary anemia. This child had a slight leukocytosis with differential predominance of lymphocytes. Myelocytes were absent. Normoblasts were present but very rare—two or three to a cover. Megaloblasts were absent. The red-cells showed the familiar distortions of shape and anomalies of size found in advanced secondary anemia. A careless observer would have insisted upon calling the case one of Von Jaksch's disease. The

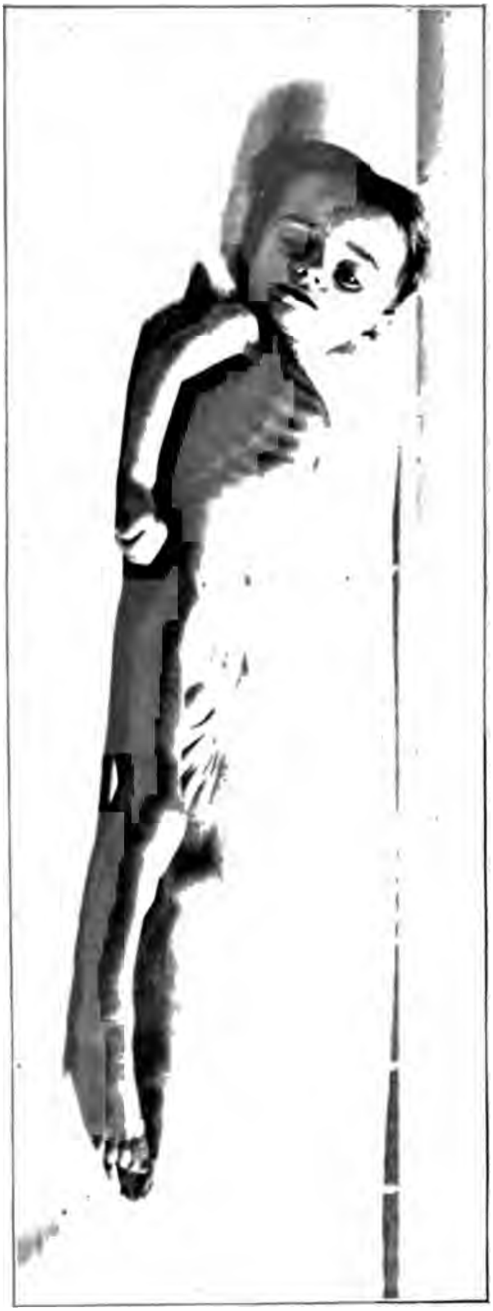


Fig. II.

writer has heard of one such case (of rickets) in this city that was pronounced by an experienced specialist sarcoma of the spleen. If there be any doubt of the diagnosis, the rapid improvement of the patient upon cod liver oil and syrup of iodide of iron will soon make the question perfectly plain. The original of Fig. 3 was so much better within two months from the beginning of treatment, that his happy-go-lucky mother could not be persuaded to bring him to the physician any longer.

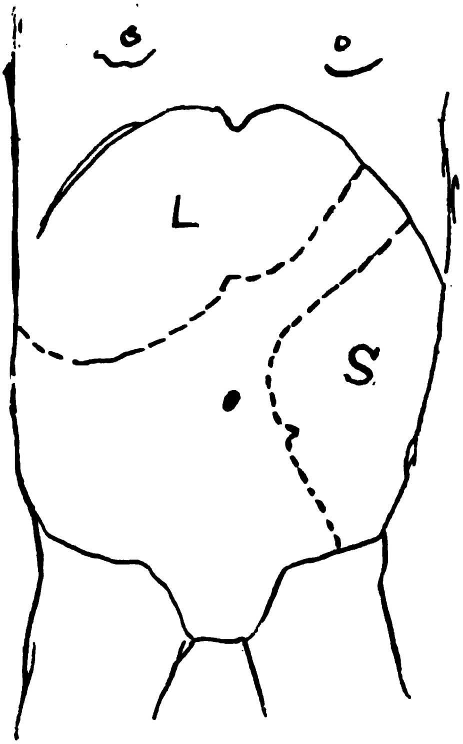


Fig. III.

121 East 26th Street,

FOREIGN BODIES IN THE AIR PASSAGES.

By J. MORRISON RAY, M.D.,

Clinical Professor of Ophthalmology in the University of Louisville, etc..
Louisville, Ky.

I HAVE seen within the last few months two cases of foreign bodies in the air passages that were of especial interest to me.

Case 1.—I was asked to see a child 18 months old, without any history beyond the fact that for ten days previous to my visit it had been breathing heavily, with a little cough, and that it had lain practically in one position for ten days. Its head was thrown back, respiration very rapid, no fever; the child was perfectly conscious, and complained of no pain unless moved out of the position mentioned, lying on the nurse's lap with its head thrown backwards and breathing rapidly.

Examination showed no foreign body in the upper air passages. However, in examining the child's chest I found a spot in the right lung where there seemed to be some obstruction, a peculiar noise being produced by the incoming and outgoing air. The lung was not collapsed, and there was no particular amount of dulness on percussion.

I gave it as my opinion that there was a foreign body in the bronchus, and suggested that the best thing to do was to try to locate it by means of the X-rays.

Two days afterwards the child was brought to this city and taken to Dr. Butler for the purpose of having him make an X-ray picture. This was done, but the photograph showed nothing. The patient was then seen by Dr. Marvin, who agreed with my diagnosis, that there was a foreign body in the right lung, and that nothing could be done except to await developments.

This condition remained the same for a week or ten days longer when it gradually cleared up, and the child recovered without any bad symptom.

Now exactly what there was in the bronchial tube was a mystery to me. The mother said, however, that the child was very fond of crawling around the room, that it had on one or two occasions crawled out into the yard and got hold of some clover blossoms and she had noticed several times that the child had taken them into its mouth.

Case 2.—I was asked by Dr. Galvin to see the next case at the Saints Mary and Elizabeth Hospital. The history was that the Thursday before, a boy, while eating some kind of preserves, had swallowed a piece of glass; he had remained at home without any doctor until Sunday afternoon, when Dr. Galvin was sent for. There was then no difficulty in breathing, but the boy had been unable to swallow anything. The doctor examined the throat, and did not find anything; the boy being unable to take any nourishment, was sent to the Saints Mary and Elizabeth Hospital.

I saw him on Monday, at which time the only thing he complained of was difficulty in swallowing. Tnere was no obstruction to breathing and no interference with his voice. I examined him carefully, making a laryngoscopic examination, and found nothing visible in the upper respiratory passages. I then took a soft rubber tube, similar to that used in washing the stomach, and passed it through into the stomach without meeting any resistance whatever, and immediately afterward the boy expressed himself as relieved. He immediately drank a glass of milk, and that evening ate some soft food, eggs, mush, etc.

I saw nothing more of the patient until Thursday, when I was telephoned to come out to the hospital at once, that the boy had had a suffocative attack, which almost proved fatal. I found him breathing rapidly, 26 to the minute, temperature 101° F. I examined his chest again, but could discover no evidence of a foreign body in the lung. Dr. Lucas happened to be in the institution at the time, and was called in and asked to examine the chest. He did so thoroughly and failed to locate a foreign body in the lung.

The next day the boy had another suffocative attack, and a tracheotomy was performed. Relief was not brought about by the operation, and the boy died two hours afterward, with evidences of obstruction lower down.

Exactly why, if there was a piece of glass in the bronchus, more symptoms were not present when I first examined this boy, I am unable to understand; and why the passage of a rubber tube into the stomach produced immediate relief to the apparent obstruction is equally puzzling.

DISCUSSION.

Dr. T. L. Butler.—In regard to the first case reported: We could find nothing with the X-rays, except that the heart shadow was entirely on the right side. I believe from my examination of the patient that there was a foreign body in the right lung, and if it was of the character Dr. Ray has described, of course the X-rays would not show its presence.

The Bacteriology of Measles.—Lesage, in *Progrès Médical*, March 17, 1900, speaks of his researches concerning the bacteriology of measles. The blood of a child was introduced into the peritoneum of a rabbit, and a hitherto undescribed germ was found. The rabbit is very susceptible to the infection of measles. The nasal mucus from a child suffering with the disease was injected sub-cutaneously into the rabbit, and the microbe of measles was found in the blood, while the other germ is contained in the mucus developed around the site of the injection. If injected into the nostrils of a rabbit, this mucus causes the death of the animal in seven days. After the eruption, the micrococcus of measles disappears from the blood, but persists for a long time in the nasal secretion. The germ was also isolated from the expectoration in cases of measles complicated by broncho-pneumonia. The microbe of measles is a small micrococcus, resembles the bacillus of Pfeiffer, and is decolorized by Gram's method. Lesage is not certain whether it is the specific germ of measles, as the disease has not been produced by inoculating a child with the serum of a rabbit that had been infected.

A CASE OF PNEUMONIA IN A BABY SIX WEEKS OLD.

By Abraham Goltman, M.D., C.M., L.R.C.P. and L.R.C.S., Ed.
New York.

ON the 9th of January last I was called in a hurry to see a baby who, the father stated, was breathing fast and coughing. The following was noticed: Baby small for its age, but fairly well developed, cyanotic, semiconscious ; breathing rapid, jerky and short. Rattle of mucus distinctly audible at a distance. Diarrhea and vomiting present. Pulse 150, and very weak. Temperature 105. Respirations 80. Patient's skin hot and dry; very restless; tongue heavily coated.

Physical examination: Rapid movements of the chest and abdomen. Retraction of chest wall at each inspiration; supraclavicular notches deepened on inspiration; mucous and subcrepitant râles over both bases and mucous râles all over the front and back of the chest. Areas of consolidation and blowing breathing on both bases; increased vocal fremitus over same areas.

Circulatory system: Visible rapid pulsations of both subclavians and carotids.

Diagnosis: Broncho-pneumonia.

Treatment: Before going into the treatment in detail, I desire to lay stress on the value of stimulating the benumbed respiratory centre by cold and hot water douches and fairly large doses of drugs for a baby 6 weeks of age.

January 11—Calomel gr. 1/10 hourly for six hours; drop doses of tincture aconite hourly for six hours were ordered.

January 20—Child worse, breathing more rapid, mucous râles harsher and child more comatose. Drop doses of aromatic spirits of ammonia every two hours in a little brandy; aconite stopped.

January 21— Condition same, but pulse little stronger and not so rapid. Strychnine gr. 1/150 every six hours with drop doses of spirits of ammonia.

January 22—Baby shows no improvement. Hot and cold douches to the chest by means of two cups containing one hot water the other cold, dashed from a height every hour alternately. Continuance of strychnine.

January 23—Above still kept up, with the addition of the following method: Two tubs, one containing warm water the other cold, were placed near the cot. The child was then plunged from one to the other for five minutes.

January 24—Signs of improvement noticed; dyspnea less marked; breathing reduced to 45 per minute. Child emerged from the stupor that marked the beginning, and coughing was excited (a condition I desired). Pulse stronger and greatly reduced in frequency; half teaspoonful of syrup ipecac was given every 20 minutes till vomiting occurred, with good results.

January 25—The child was given a vigorous rubbing for 10 minutes in a tub of hot water, dried and wrapped in a cold sheet for 10 minutes night and morning. The results were marvelous.

January 26—The little one was nursing at the breast, and looked bright. From the above date there was a steady improvement, which continued up to the 30th, when the douches were discontinued.

In conclusion, there is no doubt that the constant shocks kept the centre alive. In the beginning nothing could be done to arouse the baby, and as to vomiting, ipecac repeatedly failed. My object in giving the little one a hot bath was to promote the action of the skin as a whole. The baby showed no ill effects from the quantity of strychnine taken.

April 8—At present the baby is gaining flesh rapidly. I have ordered since February 1st inunctions of cod liver oil.

108 West 102d Street.

EDITORIAL COMMENTS.

Some Current Defects in Dispensary Work with Children

The full scientific and educational value of dispensaries for children in our large cities is far from realization. The tendency is too often, particularly in clinics for patients of mixed ages, to give the best of the attendant's time to the adults. With a few hurried questions put to the mother and a large faith in the curative power of nature, the physician lets the baby too often go home with a "snap diagnosis" made, and a prescription for hydrarg. chlor. mite in divided doses.—Some just reason for this may lie in the overcrowding of the waiting rooms, where the institution expects one physician to dispose in two or three hours of from sixty to ninety patients, and where humanitarian considerations may prompt the doctor to do the best he can for the large number of applicants for help, and to slur all but the worst cases.—But in clinics where from ten to twelve minutes are available for each patient, there is generally room for just as good diagnostic work with children as can be done in most hospitals.—Small children are easily moved, and strange as it may seem, they suffer, or seem to suffer,little from the daily trip to the dispensary in the mother's arms, even when they are seriously ill. This facilitates daily examination of a great majority of the non-infectious diseases which in an adult could only be treated in bed at home or in the hospital. If the home addresses of patients are carefully kept, an occasional visit to the home will supply in a large majority of instances the missing details in an important clinicalhistory; and post mortems may be not infrequently obtained if the doctor uses tact and care in bringing up the subject.—If the keeper of the record book is a reasonably good and rapid penman, the daily notes on the course of the case can be full and fairly satisfactory; urinary and blood examinations, sphygmograms, chest-tracings, photographs and radiographs can be arranged in envelopes with proper references (name, date, and register number) in one of the ordinary "Library Bureau" cabinets. These are now to be obtained of all sizes at very small cost, with cards to fit.

It will not, of course, be practicable nor wise to record thus every case of summer diarrhea or staphylococcus sore throat. But there are many branches of scientific medical inquiry which can never be pushed to a satisfactory conclusion except by such careful work as this upon *dispensary* material. Von Jaksch's *anæmia pseudoleukæmica*, for example, is notably a disorder of the tenements, and its true relations, its existence or non-existence as an independant morbid process will not be determined except by faithful observations in the pediatric dispensaries.—It follows immediately from what has been said that the place of the pediatric dispensary in the educational economy of medicine is one of great importance. Physical and clinical diagnosis of children's diseases has become almost a separate and distinct art from that in the adult. The children's hospitals are not open for independent work to the medical student who is not specially fortunate, whereas he can almost always find large opportunity for useful personal experience in the dispensaries. From the merely practical point of view, if from no other, medical colleges should make larger use of "extra-mural" pediatric instruction.—It would not be much beside the mark to say that not only better milk and purer air and cleaner streets are needful for the tenement babies, but a wider experience and technical skill in the average medical man, to whom their little lives are absolutely committed by well-meaning but helpless and ignorant parents. B.

FOREIGN PEDIATRIC JOURNALS.

Abstracts of all Original Articles Appearing in Foreign Journals Devoted to Pediatrics.

PEDIATRIA, FEBRUARY, 1900.

1. **On Fetal Rickets.**—By FRANCESCO FEDE and ERNESTO CACACE. Fetal Rickets is one of the most widely discussed subjects of infantile pathology. Glisson, in the seventeenth century, was the first to call attention to rachitis in the fetus. Since then numerous authors have occupied themselves with this interesting theme, and a considerable number of cases are on record. The writers give a very full account of the work done by these observers, and note that there is a considerable amount of dissention among authors who have written upon the subject. While some, for example, Rednar, Kassowitz, Schwarz, Feyerabend, Cohn, Quisling, Lentz, and others, maintain that fetal rickets is of very frequent occurrence, another group of observers claim that it is rare, or very rare, or that such a condition as fetal rickets does not exist, and that the cases which have been called fetal rickets are in reality entirely different morbid entities.

In order to solve so important a question, one must undertake a systematic study of the external characteristics of newly-born infants, and an investigation of the histologic appearance of the bones of such infants that present alleged rachitic signs, as well as of those who are apparently perfectly normal.

The writers have had exceptional opportunities for observing newly-born children at the Maternity of the Hospital for Incurables in Naples, and report the results of a study of 500 infants. They examined all these newly born children for the slightest sign of rachitis, and took a series of measurements in each case. They were induced to undertake the work because of the absence of statistics concerning the measurements of illegitimate infants in this part of Italy. In each case they measured the length of the body, the circumference of the head and thorax, the fronto-occipital arc, and the biparietal arc.

At first they used a simple tape measure to determine the length of the body. Inasmuch as this was inconvenient, they devised a special apparatus on which each child was measured. This consisted of a wooden board 80 cm. long and 35 cm. wide, composed of two hinged pieces, which allow the board to be folded to facilitate transportation. On the sides of the board are screwed metallic scales, graduated in centimeters and millimeters from 0 to 800 mm. At the zero point of either scale are two vertical boards, one of which is fixed, and the other movable in the vertical position upon the long base board so that it can be brought nearer to the stationary board, or away from it, at will. The child is placed with its feet against the stationary board and is stretched out to its full extent. The movable board is then brought into contact with the head of the infant, and the length read off on one of the scales at the side of the apparatus.

The circumference of the head and the arcs were measured in the usual way by means of tapes. The writers measured the circumference of the thorax at the end of expiration. Of the 500 infants observed, 474 were born at term, 22 at 8 months, and at 4 and 7 months. Of the 484 born at full term, 248 were males and 226 females, while of the 22 born at 8 months there were 12 boys and 10 girls, and the remaining 4 that were born at 7 months were equally divided among the sexes.

The authors present the results of their work in a series of tables. They found that craniotabes was present in 3 cases out of 474 born at term, and in 1 case out of the 22 born at 7 months, and *and that only 1 case in 500 could be said to have the clinical signs of rachitis.* Of these 500 cases, 215 were perfectly normal, 127 showed very slight deviations from the standard, e.g., a wider fontanelle, and the remainder, namely, 28 per cent., showed evident abnormalities in the cranium.

The authors conclude, as they were able to find only 1 case in 500 with unmistakable signs of rickets, and craniotabes as the sole sign in only 4 cases, that fetal rickets is a *very rare affection*,

2.—**Contribution to the Study of the Blood in Some Forms of Anemia (Splenic, Syphilitic, Secondary to Rickets and to Affections of the Gastrointestinal Tract), and of Cyanosis in Infants.**—By Francesco Guarrella. In this article the writer continues the discussion of the subject which he began in a previous issue of *Pediatria*. One of the most common causes of anemia in infancy is the presence of chronic gastrointestinal derangements. In fact simple insufficiency ot nutrition will give an oligocythemia. There are no special characteristic features in the blood of these patients, and the condition resolves itself into a simple oligochromemia, accompanied by a minor degree of oligocythemia, while the leucocytes retain their nuclei in normal condition. On the other hand, in some cases the blood presents the changes of progressive pernicious anemia. The author reports six cases of anemia due to chronic gastrointestinal derangements. He gives a synoptic table of the blood examinations. The average findings in the blood of these infants were:

Hemoglobin %	42
Leucocytes per cu. mm	11,908
Red cells per cu. mm	4,271,000
Ratio	1: 416
Hb. index	0.68
Lymphogenic group %	51
Spleno-myelogenic group %	46
Mononuclear %	64
Polynuclear %	34
Eosinophile	0.93

Poikilocytes, microcytes, and macrocytes in 2 cases out of 6.
Two or three nucleated red cells in 2 cases.
A megaloblast in 1 case.

The condition of the blood is in direct relation to the general condition of the patient. For example, the first four cases were milder, and the deficiency in the blood was not so marked. On examination of a blood smear they showed nothing abnormal, while the other two cases showed few erythrocytes, which did not cohere in rouleaux, but formed little groups of three or four cells, and in addition microcytes in large number, and a few macrocytes and poikilocytes. The percentage of Hb. ranged from 40 per cent. to 70 per cent. in the first four cases, while in the last two it was only 25 per cent. to 28 per cent., and the normal red cells were very few in number. The Hb. index averaged 0.66 for the last group, and only 0.43 for the milder group. But this is of no consequence, for in one of the latter group the Hb. was only 40 per cent., and the red cells numbered 5,770,000. This accounts for the low index in these milder cases, and on the other hand testifies to the activity of the blood-generating organs. The hemoglobin is generated more slowly than the cells, and hence the disparity between these two percentages. This fact has been confirmed by a number of observers, e.g. Stierlin, Audeoud, Neumann, etc. In all the cases of anemia secondary to gastrointestinal disease, there was found an oligochromemia which was in excess of the oligocythemia, the result being a low Hb. index. We are therefore concerned here with a simple anemia. The number of leucocytes is usually normal, or very slightly diminished or increased. Unlike Audeoud, the writer found that mild leucocytosis, if present, was mononuclear, and not polynuclear.

In speaking of cyanodermia, he says that the disease was known in the age of Paracelsus as "violet icterus." Krehl, in 1889, was the first to find that the pathologic basis of this condition is a hyperactivity of the blood cell forming organs, producing a "hyperglobulia," and a cyanosis of the skin. Next came Vaquez, who claimed that the hyperglobulia is progressive, and that it is accompanied by an increase in the diameter of red blood cells, and he considers both phenomena as a defensive measure of the system against asphyxia. The numerous observers who followed Vaquez confirmed his findings, and also found that there is an increase in the percentage of Hb. which is not in proportion with the increase in the the number of red blood cells, and that the hyperglobulia is never found in children below the age of two years, or is scarcely appreciable in them, while in older children it becomes more marked with age. The increase in diameter of the red cells is not always parallel to the increase in number. Hayem has reported a case of cyanodermia in a man aged 23 years, who had 7,523,000 red cells, and 9,920 leucocytes per cu. mm. He denies Krehl's hypothesis, and says that the condition of the blood is not due to a hyperactivity of the hematopoietic organs, because he found no nucleated red cells, but that the increase in the number of erythrocytes is due to a transformation of the hematoblasts, i.e. to an increase in number and in diameter of these elements. The writer reports two cases of cyanodermia in infants of 3 and 6 months respectively.

3. **Some Observations Concerning the Etiologic Significance of Hereditary Syphilis in Congenital Cardiac Lesions.**—By Dr. MONCORVO. (Rio de Janeiro.) For the past sixteen years the writer has kept a record of the cases of congenital heart affections that were treated at his clinic.

He finds that in two cases out of three these infants presented more or less distinct signs of hereditary syphilis, with or without other abnormalities of growth and development. The majority of observers at present agree in relegating rheumatism and tuberculosis as etiologic factors in congenital heart disease to an inferior position. The author gives a list of cases reported in literature in which hereditary syphilis was considered a prime factor. He reports two cases of hereditary cardiac disease, in which there was a syphilitic history in the parents. He concludes that there is no doubt that hereditary syphilis plays the principal role in the etiology of the condition causing young infants to be called "blue babies.'

ARCHIV FUER KINDERHEILKUNDE, VOL. XXVIII., PARTS III. AND IV.

1. **On the Casuistic of Spasmus Nutans.**—By Dr. Ausch. The writer reports four cases of spasmus nutans. He states that in recent publications on the subject the writers described as spasmus nutans cases of rotatory *tic* and other diseases that had nothing in common with spasmus nutans. Of his four cases one was particularly interesting, as nystagmus was absent, except on one occasion when it was of short duration. Other writers have described cases where the nystagmus disappeared toward the end of the disease, but in this case nystagmus was absent from the first. This case was also characterized by twisting motions of the head when the child was placed upon its back, movements which were entirely analogous to those of spasmus nutans, inasmuch as they disappeared when the child's eyes were covered, or were firmly fixed upon an object. Raudnitz, who has made a very thorough study of the disease, states that the absence of tremor of the hands and of spasmodic contractions of the trunk or extremities is pathognomonic of spasmus nutans; he thus distinguishes the latter from "salaam cramp," or eclampsia nutans. In this case there were tremors of the hands, but of a different character from those observed in "salaam cramp." There tremors were merely an expression of impotent anger at the necessity of remaining prone. Similar tremors are observed in children who are held down in an uncomfortable position against their will. Raudnitz considers spasmus nutans as analogous to the nystagmus of miners, i.e., a chronic fatigue of some or of all oculomotor centers. He believes that the occurrence of the spasm is predisposed by weak eyesight, by a peculiar susceptibility to fatigue on the part of the muscles of the eyeball, and by strain of these muscles in the absence of a sufficient amount of light. The writer states that in his first two cases the children lived in very dark apartments, but in the other two this etiologic factor was not present. He thinks that other conditions which produce fatigue of the eye can cause nystagmus without the factor of insufficiency of illumination; for nystagmus has been observed in seamstresses and others who worked in good light. He thinks, therefore, that in his last two cases it was the constrained position of the infant which necessitated a strain on the ocular muscles. He believes that dark rooms may be an exciting cause of the trouble, but the predisposing causes are probably the constrained position and constitutional debility.

2. **Saturnine Encephalopathy due to the Use of Hebra's Ointment in a Child of Thirteen Months.**—By Dr. HAHN. The writer begins by saying that a symptomatic treatment of a case is only permissible until the true cause of the trouble is known. The protracted use of any powerful drug is almost always followed by poisoning. Taking these axioms as his text, he speaks of convulsions in children as an example of a symptom which may be due to a great variety of causes. In the first place we have the ordinary convulsions, due to the presence of some febrile disease—convulsions which are said to take the place of chills in children. Next we have the afebrile type of convulsions. The causes of them are, in the order of frequency, epilepsy, uremia and intestinal autointoxication. Extrinsic poisons may, however, produce similar attacks, and one of these poisons is lead. The author reports two cases where the use of Hebra's ointment (consisting of one part litharge and four parts of olive oil) was used in the treatment of eczema of the scalp for some time, and where the patients showed symptoms of lead poisoning in the shape of general convulsions. The first of these was a child of 4 months, who died suddenly in an attack of afebrile convulsions, with no other apparent cause than the fact that for four weeks preceding the attack it had been treated by applications of Hebra's ointment. No autopsy was allowed.

The second case was a boy, aged 6 years, who had been treated with the same ointment, and was suddenly seized with a severe attack of convulsions. The urine contained for two days a moderate quantity of albumin, casts and leucocytes. No other cause for this transient nephritis was found.

The writer noticed that the faces of infants who had been treated with Hebra's ointment for a prolonged period would frequently assume an ashy white tint. The use of this remedy was, therefore, restricted in his clinic; the mothers were told to bring children so treated for inspection at least once a week, and to look out for colic, constipation and pallor. This warning was not heeded by the mother of the third patient. She discontinued her visits at the clinic, but kept on using the ointment on the child's face and head for four months. When the writer was called to see this child he found it in an attack of general convulsions, with tense, rapid pulse. He removed the remains of the ointment, substituted inunctions of sulphur with the view of forming insoluble sulphid of lead in the skin, and gave the child sodium bromid internally. Two days later, there was a second attack of convulsions, and he found the child emaciated, pale, semicomatose, with normal temperature, bulging and pulsating fontanelle, and slow, irregular pulse. There was no blue line on the gums; no paralyses, but tremors of the hands; the knee reflexes were greatly exaggerated. The fundus oculi was normal. The urine showed albumin and an excess of uric acid. With the view of diminishing the amount of intracranial pressure, the writer performed a lumbar puncture and withdrew 20 cc. of clear fluid. After the puncture the pulse became more rapid and more regular, but the child died on the following day. The autopsy showed a mild degree of hydrocephalus, a chronic gastroenteritis, and sections of the white matter of the brain became yellow on exposure to the atmosphere. The microscopic examination of the brain showed nothing pathologic. On the other hand, on chemical examination of 4.8 gm. of brain substance, 0.0013 gm. of lead was found. This is the first time that the presence of saturnine encephalopathy was demonstrated in a child by chemical examination of the brain.

In commenting upon the difficulty of diagnosticating such cases, the author says that in this instance the coma was an indication that the convulsions were due to one of three conditions,—uremia, increase of intracranial pressure, or lead poisoning. Uremia was excluded by the examination of the urine. The uselessness of the lumbar puncture demonstrated that the convulsions were not due to increased intracranial pressure from any cause. On the other hand, the absence of the line on the gums, of the characteristic paralysis, and of changes in the fundus oculi were misleading. A peculiarity of lead poisoning in children is that just these characteristic symptoms are absent, or are so common to other conditions at this age, that they are not particularly noticed.

The author is astonished that more cases of lead poisoning in children are not recorded, and says that a frequent source of such poisoning will probably be found in the lead in toy soldiers which are sold in the shops, and are said to be made of "tin." In conclusion he gives a table of recorded cases of lead poisoning in children.

3.—**The Symptomatology of Cerebellar Affections in Early Infancy.**—By Dr. HAHN. The writer reports the following case to illustrate the symptoms of cerebellar lesions in infants.

The child was a girl aged 4 months, who was brought to the clinic on account of continuous rotary motions of the head which were first noticed two weeks before. Her grandmother had tuberculosis. The head was not enlarged; the anterior fontanelle was 2 cm. wide and bulging. The child lay with its head bent backward, the neck was rigid and the head was constantly rotated. There was converging strabismus, usually of both, sometimes of one eye. The pupils and fundus oculi were normal. The upper part of the right lung, down to the third rib in front, gave dulness on percussion, and harsh breathing on auscultation. The pulse was regular, 148. The child was very sensitive to the slightest touch. She never had any convulsions, and the first convulsive attack took place while the patient was in preparation for lumbar puncture. On microscopic examination of the fluid obtained from the cerebrospinal cavity, no tubercle bacilli were found. She had a second attack after the operation. On the following days her condition was unchanged, except that the left pupil became dilated. She had no more convulsive attacks; the pulse and temperature remained the same, the latter always normal. No vomiting; bowels regular. The stiffness of the neck was very slight; the rotary motions of the head less frequent. The child died five days after admission. The diagnosis of a tuberculous deposit in the brain was made. The autopsy confirmed this diagnosis, a soft, caseous, whitish mass being found in the middle of the vermiform process of the cerebellum.

4. **Concerning the Relation of the Gouty Diathesis to Minimal Albuminuria.**—By R. W. RAUDNITZ. The author terms "minimal" an albu-

minuria which lasts for some time but in which the percentage of albumin is not very much more than 0.5 per thousand. This albuminuria is cyclic and intermittent. It is favored by the upright posture, by physical exertion, by mental strain, by wet weather, and possibly by disturbances in nutrition and in the process which regulates the heat of the body. The author reports a case of minimal albuminuria which he considers to be of lithemic origin, as the patient's parents were of gouty constitution.

5. **On the Casuistic of Functional Heart Murmurs During the First Years of Life.**—By Prof. VON STARCK. Hochsinger and a number of other observers maintain that during the first three years of life functional heart murmurs are never heard, and consequently, that if we hear a systolic murmur in a child under three years, we know positively that there is an organic disease of the heart. Baginsky and others hold the opposite opinion.

According to the experience of the writer, functional heart murmurs in young children are less frequent than in adults and in older children. In spite of a pronounced degree of anemia, such as is often seen in rickety children, there is usually no anemic murmur. But this is not an absolute rule. The author reports four cases in which a systolic murmur was heard at the apex, and yet no organic heart disease was found on autopsy.

6.—**On the Diagnosis of Congenital Anomalies of the Heart.**—By Prof. VON STARCK. The author reports a number of cases of congenital cardiac malformations. In speaking of the diagnosis of these conditions, he says that in many cases it is impossible, and to a certain extent unnecessary, to determine exactly the character and situation of the anomaly; but in all cases we must try to get a correct idea of the actual condition of the heart, and be satisfied if the autopsy shows that we were right. The practical value of a correct diagnosis in these cases lies in the possibility of making a correct prognosis as to the duration of life.

The diagnosis of the most common congenital malformation of the heart, stenosis of the pulmonary orifice, is not very difficult as a rule. The symptoms are: The presence of cyanosis since birth, the hypertrophy of the right ventricle, the systolic murmur which is heard at the sternal end of the second intercostal space and which is not transmitted into the vessels of the neck; the weakening of the second pulmonary sound; eventually clubbed fingers and other evidences of venous stasis.

The diagnosis of the persistence of the ductus arteriosus has also been frequently made and confirmed by autopsy. The diagnostic signs are: Hypertrophy of the right ventricle; elongation af the cardiac dulness in the form of a narrow quadrangle along the left border of the sternum; a systolic murmur over the sternal end of the second left intercostal space, which is transmitted into the vessels of the neck; and accentuation of the second pulmonary sound. The cyanosis is either absent or appears late. When these anomalies co-exist, the diagnosis is rendered more difficult.

The recognition of a patent septum between the ventricles is declared to be impossible by some German clinicians, e.g., Leube, while the French physicians consider the "maladie de Roger" as a well defined clinical picture. The difficulty of diagnosticating this anomaly varies with the presence or absence of an an accompanying stenosis of the pulmonary orifice.

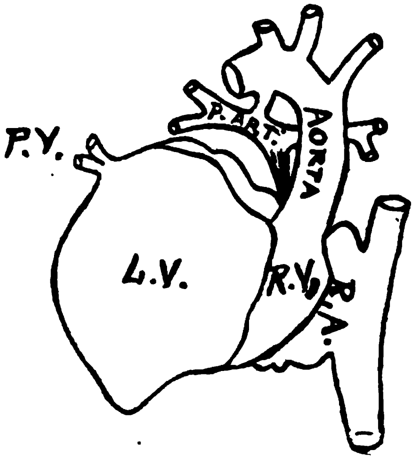
Although Peacock has described the differential signs between stenosis and atresia of the pulmonary artery, the diagnosis of these two conditions is extremely difficult. The author considers more in detail the diagnosis of three classes of congenital anomalies of the heart,—patent septum, atresia, and stenosis of the pulmonary artery. He reviews the opinions of the various authorities upon this subject, including Rauchfuss, Roger, Dupré, Reiss, Eisenmenger, Hochsinger, Scheele, Biedert, and Renvers, and reports a case of stenosis of the pulmonary valve, persistent ductus arteriosus and patent septum, in which the diagnosis was confirmed by the autopsy.

Uncomplicated defects of the ventricular septum are rare, and as a rule, there is a combination of septal defect and stenosis of the pulmonary artery. The writer has never seen a defective septum without an associated anomaly of the valve durisg life, but he has the record of one autopsy in which this rare condition existed. Hence, in the presence of symptom of stenosis of the pulmonary valve, we must always ask ourselves whether a defect of the septum also exists, and vice versa.

An important point in the differential diagnosis of pulmonary stenosis and patency of the septum is the quality of the pulse. In pure, uncomplicated stenosis the pulse is weak and small, whereas in stenosis accompanied by a defect of the septum it is practically normal, or even full and strong. The murmur of pulmonary stenosis may be heard over the aorta and carotids by transmission by contiguity, and thus be mistaken for an aortic systolic muomur. The pulse will aid in avoiding this error.

The writer reports a number of other cases of congenital anomalies of the heart, tending to show that the heart may become fairly strong and efficient during adolescence in these patients. The first of these, a girl, aged 2 years, was remarkable for her perfect development, in spite of the fact that she suffered from the symptoms of pulmonary stenosis and defective septum. Another case, a girl of 17 months, was very well nourished (through a bottle) and weighed twenty pounds. The third case was that of a boy, aged 13, who has been under observation for a number of years, and in whom the prognosis was fair, inasmuch as compensation was qnite good. The diagnosis was pulmonary stenosis, defect of the septum, and persistence of the ductus ateriosus. The boy grew stronger as he became older, and the heart seemed to become more regular and more efficient as time went on. Of course, there was no possibility of his living through a normal lifetime. In the next case the same increase in strength and nutrition of both heart and body were noted. The girl passed through lobar pneumonia without any trouble, aud the writer remarks that children with congenital defects of the heart, as a rule, recover from infectious diseases. This girl lived to the age of 17, a relatively advanced age for one suffering with cardiac anomalies. The highest age in the author's experience that a patient with such anomalies attained was 26 years. Vulpian reports the oldest case on record, a woman who reached the age of 52. The average age is said to be nine and three-sixths years. (Vierordt).

The next set of cases is reported with a view of ascertaining whether it is possible to differentiate atresia of the pulmonary artery from stenosis of the valve. He reports in this connection a case of total atresia of the pulmonary artery with a total inversion of the relation of the vessels, auricles and ventricles. The conditions found are illustrated by the accompaning outline drawing, which is sketched after a cut in the *Archiv.*



The longitudinal sulcus divides the heart into two very unequal parts, so that the left (venous) ventricle is only a small appendage of the other. The left (venous) auricular appendix is very large, but it is not connected with the venous ventricle, and is intimately connected with the arterial auricle. The arterial ventricle is situated on the right side, is roomy, and has a strong muscular wall. The mitral valve is normal, also the right (arterial) auricle, into which the four pulmonary veins empty. The foramen ovale is open. The left auricular appendix communicates with the ventricle, and takes the place of the auricle. The venous ventricle is nearly completely atrophied, and is connected with the arterial ventricle by means of a defect in the septum, which is situated underneath the origin of the aorta. The aorta surmounts both ventricles. There is no communication whatever with the venous auricle and auricular appendix. The pulmonary artery begins as a solid strand of connective tissue, apparently as a part of the aorta, and arises behind that vessel about 3 mm. above its origin. Shortly before the pulmonary artery divides, the atresia ends, and there is a dilation of its lumen; from there the artery divides into the two branches, and the latter run in the usual way to the lungs. The left branch is longer than the right. The right is connected to the aorta by the ductus arteriosus, which has remained patent. The child was 1½ years old, and died of pyemia and bronchopneumonia. He showed symptoms of occlusion of the pulmonary artery shortly before his last illness. The cardiac symptoms in this case consist of dulness on percussion extending beyond the right border of the sternum, a systolic murmur over the sternal end of the right second intercostal space, and absence of the second pulmonary sound. All these point to an atresia of the pulmonary artery. According to Peacock, in atresia of the pulmonary artery, the right ventricle atrophies, while in stenosis it hypertrophies. This statement the writer found, in the main, correct. The systolic murmur does not exclude atresia, as it is preseut with fair constancy in this condition. It is due to the rush of blood through the ductus arteriosus into the pulmonary artery, the blood being first forced by by the systole into a blind sac represented by the closed pulmonary artery, producing vertiginous currents in the sac. The prognosis is far worse in atresia, as compared to stenosis, as far as duration of life is concerned.

The last case is one of transposition of the vessels. The diagnosis was not made, and was hardly possible. On autopsy the muscular wall of the right ventricle was found to be 1 c.m., that of the left 0.7 c.m. in thickness. The aorta and the pulmonary artery spring from the right ventricle, the septum between the ventricles was open, the foramen ovale patent. The aorta ascended on the right side, and a little in front of the pulmonary artery. The pulmonary valve was stenosed, as had been supposed, during life but the ductus arteriosus was closed.

The author thinks that we cannot expect that radiography will assist in making a diagnosis of congenital anomalies of the heart. Such cases should be observed for a considerable length of time before a diagnosis can be safely made. On the other hand, it is not necessary to indulge in diag nostic hair-splitting, as the possibilities of a correct recognition of these complicated anomalies are limited.

7. **A Cherry Pit in the Left Bronchus.**—By F. GERNSHEIM. The writer reports the case of a boy, aged seven years, who was brought to the hospital with a cherry pit in his left bronchus. The left lung was dull-tympanitic to percussion, and respiratory murmur was absent all over that side of the chest. Tracheotomy was performed, and a loop of wire about 1 m.m. in thickness, bent to correspond with the inclination of the bronchus, was introduced into the wound, the foreign body seized and pulled up into the trachea. By a sudden attack of cough it was thrown against the vocal cords, and a canula was quickly introduced into the wound. When the respiration had again become quiet, the canula was withdrawn, and the cherry pit was seen moving up and down in the trachea with the respiration. The foreign body was then extracted through the wound, by means of a curved hollow sound. The child had symptoms of septic pneumonia before the operation, but recovered in a few days.

8. **A Canula for Tracheotomy, after Biedert.**—By F. GERNSHEIM. The tracheotomy tube described by the writer has the advantage that it does away with the necessity of having four sizes of tubes for different ages. He admits, however, that even with this tube two sizes must be used

in order to be prepared for all emergencies. The tube consists of three separate tubes within one another, of which the middle projects 1.5 to 2 mm. above the outer, while the third tube, like Lissard's canula, has a conical end, is provided with four fenestra, and projects 8 mm. beyond the middle tube. The transition from one tube to the other is so gradual that the canula can easily be introduced into the trachea. The writer's canula is larger in diameter than Roser-Lissard's after-treatment tube. The tube may be used in infants as young as 8 months, but in cases where a younger child has to be operated upon, the narrower canula of Roser-Lissard must be used.

9. **Acute Idiopathic Thyroiditis.**—By Carl Stamm. This affection is a relatively rare disease, when we include under this heading only those acute cases where the thyroiditis affects a previously healthy gland, and not one that has been the seat of struma. The disease may be primary or secondary to a general infectious disease. The latter class of cases is very common, and has been frequently reported in literature. The writer reports a case of primary acute thyroiditis which came on suddenly in a previously healthy child. The patients was a girl, aged 11 years. The attack began with fever, swelling of the neck, cough, hoarseness and difficulty in breathing. The swelling was about the size of a hen's egg, and extended almost from the cricoid to the suprasternal notch. It was firm to the touch, not very sensitive, and closely adherent to the trachea. After two days of antiphlogistic treatment the symptoms disappeared, and the swelling became considerably smaller, and in eight days it disappeared entirely.

10. **Congenital Laryngismus Stridulus.**—By Carl Stamm. The author reports two cases of laryngismus stridulus in infants, aged 4 and 8 days, respectively. The stridulous respiration was present in both cases since birth. The first infant died in convulsions a few days after the writer first saw it. In this case there was no autopsy, but there is no doubt that there was some central lesion, and that a fall on the head which the child had in the act of birth (it was a precipitate labor) had something to do with the etiology of the trouble.

11. **A Case of Tuberculous Peritonitis. Laparotomy. Recovery.**—By Carl Stamm. The patient was a child, aged 9 years. For several months before the operation she suffered from pains in the abdomen, anorexia and loss of flesh, and the attendants noticed a progressive increase in the size of the abdomen. The abdomen was opened, the peritoneum mopped out with sterile gauze, and the wound closed. The recovery was uneventful, the wound healing by primary union in nine days. On examination two years after the operation no signs of recurrence were found.

12. **Rickets and its Independence of the Relative Humidity of the Atmosphere.**—By W. P. Shukowsky (Kiew). The writer questions the possible connection between the prevalence of rachitis and the amount of

relative humidity in the atmosphere. He found that among the lower classes of the population in St. Petersburg the percentage of rickety children amounted to 95 per cent.; in Moscow, Tula and Riga, cities that are situated south of St. Petersburg, 80 per cent.; and in the south of Russia, in Kiew, Bessarabia, etc., only 50 per cent. In the villages the percentages are lower, and, as a rule, are lowest in those villages that are farthest from the cities, and become lower as we approach the southern provinces. Rachitis is four times as frequent in the villages of the north of Russ'a as in those of the extreme south. Hagen-Thorn claims that the frequency of rickets in a given locality of Russia is directly in proportion to the amount of relative humidity in the atmosphere. The present writer, however, studies the meteorological condition of a locality in Crimea. and concludes that the relative humidity of that place is high as compared to that of St. Petersburg and other acknowledged centers of rickets, and yet the disease is almost never seen in the children of this locality. The relative humidity of this place averaged 70 per cent. In the great cities the disease is prevalent in winter, but at that season of the year the infants who form the majority of the rachitic contingent live in what Vierordt has aptly called "room climate," i.e., they are confined to their rooms for months. As a matter of fact, in the dampest room in the cellar of a city house the relative humidity does not exceed 70 per cent. If, then, in a climate where the relative humidity is only 70 per cent., as in the Crimea, there is little or no rickets, how can we say that in this "room climate," with the 70 per cent. of humidity, there are more cases of rickets on account of an increased amount of moisture in the atmosphere? The writer also compares the climatic conditions of Vienna (humidity 72 per cent. and a great number of rickety children) and Simferopol (humidity 75.6 per cent., and rachitis very rare). Other examples of moist climate where rickets is very rare are: Davos, Japan, Iceland, the northern part of the Scandinavian peninsula, the Faroe Islands, etc.

The author concludes that rachitis has nothing to do with the relative humidity of a locality. Its frequency depends on the possibility of being out in the fresh air, and hence upon the number of sunny days in the year, on the average temperature, and on other climatic conditions which permit the children to be taken out into the air. Thus the decrease of the disease toward the South is explained.

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